DOCUMENT RESUME

ED 028 641 EM 007 101

E.B.U. International Conference on Educational Radio and Television (3rd, Paris, March 8-22, 1967).
Office de Radiodiffusion-Television Francaise, Paris (France).
Pub Date [67]
Note-658p.; French edition is "Congres international de l'U.E.R. sur la Radio et la Television educatives (3., Paris, 8-22 mars, 1967)
EDRS Price MF-$2.75 HC-$33.00
Descriptors-Broadcast Industry, Communication Satellites, Conference Reports, *Conferences, Educational Innovation, *Educational Radio, Educational Research, *Educational Television, Instructional Television, *International Education, International Organizations, Media Specialists, *Media Technology, Meetings, Production Techniques, Public Television, Speeches, Teaching Methods, Television Research
Identifiers-EBU, *European Broadcasting Union

A conference dealing with the problems and activities of open-circuit educational radio and television broadcasting on five continents, especially in the developing nations, was organized by the European Broadcasting Union (EBU) in Paris in 1967. Technological change, especially the development of reasonably priced videotape equipment, was cited as being particularly important to the growth of educational broadcasting. The need for the integration of media with educational systems was noted. Four commissions, formed to deal with different areas of interest to the Conference, conducted eight day preliminary seminars and presented final reports at the plenary sessions. The first commission discussed and summarized teaching situations and methods, programs and production, and the professional duties and training of specialists. The second examined the integration of radio and television with educational and government planning. The third commission studied international coproduction and distribution of programs, as well as satellite transmission. The fourth explored the needs and uses of research in educational broadcasting. Listed in the report of the proceedings are a glossary, the conference participants, organizations represented, and the programs presented. (RP)

ED028641

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Third E. B. U. International Conference on Educational Radio and Television

Paris — March 8th-22nd 1967

EM 007 101

O. R. T. F.
Office de Radiodiffusion-Télévision française

Foreword

The effort sustained by all countries in favour of education is one of the distinctive marks of our modern world. All of humanity, industrialized as well as developing countries, is concerned by the development of traditional teaching or the renewal of methods and techniques.

The powerful mass-impact of radio and television will be of great importance in the development of education. A number of radio and education specialists realized this some years ago. The movement they initiated has rapidly developed. It has met with important responses from international organizations such as U.N.E.S.C.O., O.E.C.D. and the Council of Europe, but it was the E.B.U. which marked the stages of these developments in organizing the first conferences on a world-wide scale.

We have had the honour and the difficult task of organizing in France the Third Conference and we are here presenting its proceedings. Although this Conference has had an indisputable success, we also believe that its exceptional length, the abundance of its agenda, the scope and variety of its subject-matter, make it particularly difficult to establish proceedings which are at the same time faithful, complete and practicable. The main thing, at least, so it seemed to us, was to furnish a practical instrument. That is why we have deliberately opted for a work of reference and have left aside numerous contributions and even reports, in order strictly to keep within the terms of reference laid down by the E.B.U.

In the following pages, you will find five main chapters. The first one presents the structure of the Conference, its terms of reference, its agenda, its officers and the International Organizing Committee which guided it.

The second one describes the preliminary seminar which (from the 8th to 16th of March 1967) preceded the Conference itself. It was above all here that we had to make *our main choice and limit ourselves to references and final reports by specialists. The third and fourth chapters describe the Conference itself — on one hand, the plenary sessions in which a description of recent developments in educational radio and television in different parts of the world is given; on the other hand, the conclusions, in plenary sessions, of the work of the seminar. After this account you will find the report of the general rapporteurs, Messrs. Italo Neri and Christopher Kolade, which remarkably sums up the work that has been done and the results and hopes that our meeting has permitted. Finally, a fifth chapter groups various references which will, we hope, help to make this book into a useful instrument.*

I should here like to thank all those who devoted themselves to the success of this Conference. I am particularly thinking of the valuable help given by the organizers of the preceding conferences and of the judicious advice offered by the members of the International Organizing Committee. I am also thinking of the help given by national, international, governmental and professional organizations that have co-operated with us.

Finally, I am thinking of the chairmen, rapporteurs and specialists who, from all corners of the world, spontaneously assembled to make a success of this Conference.

JACQUES-BERNARD DUPONT

Director-General of the Office de Radiodiffusion-Télévision française
Chairman of the International Organizing Committee
Vice-President of the European Broadcasting Union.

CHAPTER I

Preparation of the Conference

It has been one of the original features of the Paris Conference to have suggested a detailed programme; to this end, it was aided by experts of many nationalities in the field of broadcasting, education and research; at the same time, it has defined the working methods for this Conference. The results of this preliminary work are given in the following pages :

— First of all, *establishment of the Conference regulations* which, while outlining the procedure and the role of the Steering Committee which replaces the International Organizing Committee during the Conference, stress the strictly professional nature of our activities.

— *Guidelines for the Conference.*

— *Terms of reference* for the four Commissions making up the seminar.

— *Organization of the Conference sessions* devoted to the presentation of programmes and reports on the developments of educational radio and television in the five continents.

— *General working directives* proposed to delegates (questionnaires, methods and agendas).

— Finally, *the officers of the Conference.*

The International
Organizing Committee

The Administrative Board of the European Broadcasting Union, at its meeting of November 15th 1965 in Frankfurt, adopted the proposal put forward by the Office de Radiodiffusion-Télévision française to organize, in Paris, the Third International E.B.U. Conference on Educational Radio and Television.

In the French proposal the general framework of this Conference was defined in view of the experience of past conferences. It was proposed to create an International Organizing Committee composed of representatives of a certain number of organizations, either active or associated members of the Union. This is the origin of the Committee which met three times in Paris during the following eighteen months to examine in detail the organization of the Conference as planned by the O.R.T.F.

The workings of the Committee were extremely varied and dealt with practical organization, with the participation of the organizations and with the guidelines and agenda of the Conference. The decisions taken by the Committee were submitted to the Administrative Board of the E.B.U. in Dubrovnik and subsequently to its General Assembly in Dublin.

All during this period the International Organization Committee in general assumed a twofold responsability :

— On the one hand, because of its professional composition it was able to guarantee to the broadcasting organizations and more particularly to the organizations participating in the E.B.U. that the French projects were in accordance with the general policy of the Union and with the professional principles which guide its activities.

— On the other hand, because of its international membership, it was in a position to bring the French project in line with the major problems arising from the development of educational radio and television throughout the world.

Presided over by M. Jacques-Bernard Dupont, Vice-President of the E.B.U. and Director General of the O.R.T.F., the Committee was composed of representatives of the E.B.U. and of twelve broadcasting organizations :

A.B.C.	*Australian Broadcasting Commission*
A.B.E.R.T.	*Associaçao Brasileira de Emissoras de Radio e Televisao*
A.R.D.	*Arbeitsgemeinschaft der Öffentlich-Rechtlichen Rundfunkanstalten der Bundesrepublik Deutschland*
B.B.C.	*British Broadcasting Corporation*
C.B.C.	*Canadian Broadcasting Corporation* *Société Radio-Canada*
J.R.T.	*Jugoslovenska Radiotelevizija*
N.B.C.	*Nigerian Broadcasting Corporation*
N.H.K.	*Nippon Hoso Kyokai*
O.R.T.F.	*Office de Radiodiffusion-Télévision française*
R.A.I.	*Radiotelevisione Italiana*
R.T.I.	*Radiodiffusion-Télévision ivoirienne*
R.T.T.	*Radiodiffusion-Télévision tunisienne*

You will find below, firstly, a list of the personalities who participated in the various sessions of the Committee in Paris, in February and September 1966 and later, on the eve of the Conference, in March 1967, and secondly the list of animateurs who kindly accepted, on behalf of the Committee, to undertake preliminary studies to specify the assignments and the agenda of the Conference.

List of Participants

The following took part in the various meetings presided over by M. Jacques-Bernard Dupont, directeur général de l'O.R.T.F. :

ALLE Mrs	**School Television expert in the Ivory Coast-Ministère de l'Éducation**	**R.T.I. Ivory Coast**
AKROUT Hassan	**Director of Television**	**R.T.T. Tunisia**
AMARAL Joao Baptista do	**President of Fundaçao Joao Baptista do Amaral**	**A.B.E.R.T. Brazil**
BLIN Bernard	**Head of Studies and Documentation — Department of External Relations**	**O.R.T.F. France**
CASSIRER Henry	**Chief educational use of mass media**	**U.N.E.S.C.O**
CHAMBURE Alain de	**Deputy Secretary General — General Organizing Secretariat**	
DIEUZEIDE Henri	**Head of School Broadcasting — Institut pédagogique national**	**O.R.T.F. France**
DIEZ-HOCHLEITNER Ricardo	**Director, Department of Education**	**U.N.E.S.C.O**
DUMAURIER Jean	**Technical Adviser — Délégation générale à la promotion sociale**	**O.R.T.F. France**
EDO Kouame	**Director of Programmes**	**R.T.I. Ivory Coast**
FRANÇOIS André	**Technical Adviser to the General Administration**	**O.R.T.F. France**
FUTAGAMI Shigenari	**Assistant Manager, School Broadcast Division, Education Department**	**N.H.K. Japan**
GRATTAN Donald	**Head of Further Education, Television**	**B.B.C. UnitedKingdom**

HAHR Henrik	Director of the Administrative Office	E.B.U.
KAMMANS Louis-Philippe	Chairman of the E.B.U. Study group on Teaching by Television, Director of Television Programmes, Radiodiffusion Télévision belge	E.B.U.
KOLADE Christopher	Director of Programmes, Nigerian Television Service	N.B.C. Nigeria
LA FERRIERE Jacques de	Head of the Radio-Television-Cinema Bureau — Ministère des Affaires étrangères	O.R.T.F. France
LEFRANC Robert	Director of the Audio-visual Centre, Ecole normale supérieure de Saint-Cloud — Ministère de l'Éducation nationale	O.R.T.F. France
LE GALL Yves	In charge of the Bureau for Research and Coordination — Secrétariat d'État aux Affaires étrangères, chargé de la coopération	O.R.T.F. France
NERI Italo	Director of the Telescuola Centre	R.A.I. Italy
OUDINOT Jean	Secretary General — General Organizing Secretariat	
PAIVA E SOUZA Mrs Alfredina de	Head of the Educational Television Service	A.B.E.R.T. Brazil
POSTGATE Richmond	Controller, Educational Broadcasting	B.B.C. United Kingdom
PUGLISI Mrs Maria Grazia	Head of Teaching, Telescuola Centre	R.A.I. Italy
RAINSBERRY Fred	Supervisor of School Broadcasts and Youth Programming	C.B.C. Canada
RUGHEIMER Gunnar	Adviser to the Administration	Sveriges Radio Sweden
SAINT-JORRE Jean de	Head of the Arts Teaching Service — Ministère des Affaires culturelles	O.R.T.F. France
SAMIC Mrs. Bahra	Head of the Service for the Coordination of the School Radio Programmes of the Yugoslav stations	J.R.T. Yugoslavia
SCHAEFFER Pierre	Head of the Research Service	O.R.T.F. France
SHOLL Eric	Representative in Europe	A.B.C. Australia
SIMMERDING Mrs. Gertrud	Head of School and Family Television Programmes, Bayeirscher Rundfunk	A.R.D. West Germany
YOSHIDA Tadashi	Director of Education Department	N.H.K. Japan

List of Animateurs

ALLEBECK S. S. Assistant Head of School Broadcasting — Sveriges Radio — Sweden	Economic study of equipment and production
CASSIRER H. Chief Educational use of Mass Media — U.N.E.S.C.O.	International Exchange and Distribution of Educational Programmes
DIEZ-HOCHLEITNER R. Director of the Department of Education — U.N.E.S.C.O.	Role of educational radio and television in economic and social planning
FUTAGAMI S. Assistant Manager, School Broadcast Division, Education Department, Nippon Hoso Kyokai — Japan	Professional Characteristics of radio and television educational personnel
GALVEZ Y FUENTES A. Director General of Education by Audio-visual methods, Secretaria de Educacion Publica — Mexico	International transmission of educational programmes by satellites
GRATTAN D. Head of Further Education, Television, British Broadcasting Corporation — United Kingdom	Production media and techniques in radio and television educational programmes
KOLADE C. O. Director of Programmes, Nigerian Television Service — Nigeria	Exchange of written or audio-visual documents
LOURIÉ S. Project Officer, Educational Financing Division — U.N.E.S.C.O.	Role of educational radio and television in economic and social planning
LUNDGREN R. Head of School Broadcasting, Sveriges Radio — Sweden	Professional characteristics of radio and television educational personnel

MEESOOK Mrs K. A. Director, Education Broadcasting Service, Ministry of Education — Thailand	Research Information
MICHAUD R. Head of Religious, Educational and Public Service Broadcasts, Société Radio Canada/Canadian Broadcasting Corporation — Canada	Structure, organization and management of services
PAIVA E SOUZA Mrs A. de Head of Fundaçao Joao do Amaral — Brazil	Aims and methods of educational radio and television
PUGLISI Mrs M. G. Head of Teaching, Telescuola Centre, Radiotelevisione Italiana — Italy	Aims and methods of educational radio and television
QUINOT R. Chef de la division de l'exploitation pédagogique, Institut pédagogique national — France	Methods of checking and evaluating results
RUGHEIMER G. Adviser to the Administration, Sveriges Radio — Sweden	International co-production of educational programmes
SCHRAMM W. Director, Institute for Communication Research, Stanford University — United States	Comparative study of the effectiveness of traditional education and of education by radio and television
SEIBERT W. F. Head, Instructional Media Research, Purdue University — United States	Methods of checking and evaluating results
SCUPHAM J. Former controller of Educational Programmes of the British Broadcasting Corporation — United Kingdom	Structure, organization and management of services
STASHEFF E. Professor of Television, University of Michigan Ann Arbor — United-States	Production media and Techniques in radio educational programmes
WANIEWICZ I. Chief Programme Editor, Director of Educational Television Programmes, Polskie Radio i Telewizja — Poland	Economic study of equipment and production
WATTS F. Director of Education, Australian Broadcasting Commission — Australia	Exchange of written or audio-visual documents
WEDELL M. Professor, Department of Adult Education, Manchester University — United Kingdom	Terminology
YOSHIDA T. Director of Education, Nippon Hoso Kyokai — Japan	International transmission of educational programmes by satellites

Conference Regulations

Preamble.

The Third E.B.U. International Conference on Educational Radio and Television is a professional world conference organized under the auspices of a non-governmental association.

Its conclusions are only valid as recommendations and do not commit either the E.B.U. or any participating organization. They shall be confined to the scope of the Conference, drawn up in accordance with the procedure hereunder and will not be the subject of voting at plenary sessions.

The purpose of the following items is to define the rules which it appears expedient to lay down so as to ensure the harmonious carrying out of the work.

ON THE GENERAL STRUCTURES ON THE CONFERENCE

1. *Responsibility of the Steering Committee.*

Throughout the duration of the Conference, a Steering Committee will assume the general responsibility of the Conference. In this connection, the Steering Committee shall in particular make all the decisions it considers necessary for the carrying out of the work. It will see to the coordination of the commissions, and shall further assume the control and responsibility of the conclusions drawn up during the working sessions of the commissions and submitted at plenary sessions to all the delegates.

2. *Constitution.*

The Steering Committee will include, under the Chairmanship of the President of the Conference :

— The Chairman of the International Organizing Committee,

— The President of the E.B.U. or his representative,

— The Chairman of the Organizing Committee set up by the O.R.T.F. or his representative,

— The Chairmen and Rapporteurs of the four commissions, the Rapporteur General and the Deputy Rapporteur General,

— The five Deputy Chairmen of the Plenary Sessions.

3. *Functions.*

The Steering Committee will, in principle, meet at the end of the afternoon throughout the duration of the Conference. It will replace the International Organizing Committee and the Organizing Committee set up by the O.R.T.F. The Organizing General Secretariat will serve as the secretariat for the Steering Committee and will ensure implementation of the decisions taken.

ON THE SPECIAL RESPONSIBILITIES OF THE CONFERENCE

4. *Responsibility of the Chairman and Deputy Chairmen.*

The President of the Conference, appointed by the E.B.U. General Assembly, will preside over the Steering Committee and the plenary sessions of the Conference.

For the 5 days of the Conference properly speaking, he will be assisted by one of the 5 Deputy Chairmen in turn.

5. *Responsibility of Commission Chairmen and Rapporteurs.*

The Commission Chairmen, appointed by the International Organizing Committee, will be responsible for the carrying out of the work of their respective commissions.

They will each be assisted by a Rapporteur and a Secretariat degelate.

They will together be responsible for submitting the conclusions of their work at plenary sessions. They may submit any special requests to the Steering Committee.

ON THE STATUS OF PARTICIPANTS

6. *Status of international broadcasting associations.*

The delegates of international broadcasting associations will enjoy the same status of full member as the Conference delegates.

7. *Status of Conference delegates.*

Conference delegates are entitled to attend all the work of the Conference and, with the approval of the President of the Conference, to take the floor during the discussions following the reports of the commissions. Interventions during the afternoon plenary sessions will however be limited because of the schedule. They shall, consequently, be the subject of a written request made to the Steering Committee which shall be sole judge of how to deal with the request.

Organizations or institutions invited as Conference delegates by the International Organizing Committee shall be considered as such.

8. *Status of Observers.*

Observers may attend all the work of the commissions and the plenary sessions. They will be entitled to take the floor at commission meetings.

Organizations invited as observers by the International Organizing Committee to attend the Conference shall be considered as such.

9. *Status of Auditors.*

Auditors may attend the plenary sessions without the right to take the floor. Persons and organizations approved of as auditors by the International Organizing Committee shall be considered as such.

ON THE COMMISSIONS' PROCEEDINGS

10. *Agenda.*

The Agenda for each commission, drawn up with the cooperation of a certain number of international experts, will be fixed by the International Organizing Committee. During the Conference, this agenda may be modified by the Steering Committee if appropriate.

11. *Papers.*

Papers sent in by the organizations will serve as the basis of the commissions' work. The Chairman and Rapporteur of each commission will, in cooperation with the persons responsible for providing advice and guidance for the commission topics, define the working method adopted for carrying out the work.

12. *Discussions.*

During each session, the reading of the papers will be followed by a discussion. Decisions as to who will take the floor shall be made by the Chairman.

13. *General instructions.*

At the beginning of the Conference, delegates will be invited to submit their names in good time for participation in the work of one or several commissions depending on the topics they are interested in.

14. *Conclusions on the work.*

The conclusions on the commissions' work will be submitted by the Chairman to the Steering Committee which shall be sole judge of their merits, their final presentation and their utilization.

15. *Commission's report during session.*

The Chairmen and rapporteurs of each commission shall prepare the document to be submitted at the plenary sessions. To this end, each commission session will be the subject of a report to the Steering Committee on the day following the day on which it was held at the latest.

ON THE PLENARY SESSION PROCEEDINGS

16. *Agenda for plenary sessions.*

With the exception of the closing session, the agenda for the plenary sessions and audition and projection sessions will be fixed by the International Organizing Committee.

During the Conference, this agenda may be modified by the Steering Committee if appropriate.

17. *Summarized report on recent developments in educational radio and television.*

The morning plenary sessions will be devoted to reports on developments in educational radio and television since 1964. These reports will be given by specialists designated by the Organizing General Secretariat in agreement with the international broadcasting organizations. Certain experiences of exceptional interest may be the subject of special reports by the organizations concerned.

18. *Report on the work of the commissions.*

The afternoon plenary sessions will be devoted to reports on the work of the commissions. These reports will be submitted by the Chairmen assisted by the rapporteurs of each of the commissions. After these reports speakers may take the floor provided they have made a written request to this effect to the Steering Committee, on the previous evening at the latest and subject to the Steering Committee's approval.

19. *Closing session.*

The agenda for the closing session will be fixed by the Steering Committee on the eve of the last day of the Conference at the latest.

Guidelines
for the Conference

22/23

1. Since the previous Conferences in Rome and Tokyo, the increasing use of radio and television for university teaching, adult education, social advancement and literacy compaigns has led the E.B.U. and its organizers to modify the title of the Conference. The term « school » radio and television was felt to be too limited and has been replaced by « educational ». This change in the title indicates the wider scope foreseen for this Conference in Paris.

2. If the work of the Conference was to deal with an examination of the problems raised by educational radio and television in all countries, especially in the developing countries, a precise definition of the term « educational » was obviously necessary.

3. Thus it was decided that the subject of the Conference would not cover all cultural radio and television programmes, although, obviously these have an educational effect. The educational nature of the programmes should be marked :

— by the aims pursued; they should lead to a systematic acquisition or improvement of knowledge;

— by continuity, as educational objectives can be reached only by regular and progressive programming;

— by the supplementary material used, since the programmes must, in theory, be accompanied and reinforced by supporting material;

— by reception conditions; reception, whether individual or collective, supervised or not, must be active and must lead to an examination, or at any rate, results must be checked in some way.

4. It was also decided that the Conference was to be limited to the field of open-circuit educational radio and television.

5. Furthermore, in accordance with the wishes of the E.B.U. and the organizers, the organizations invited had, in their delegations, combined radio and television professionals and representatives of educational authorities and institutions.

6. As the study of the topics of each commission involved combining educational, technical and economic data, specialists from these fields were extensively consulted.

These were, at the beginning, the main guidelines of the Conference, which on account of the abundance of problems to be tackled, took place in two, distinct phases :

— a seminar (March 8th — 16th) in which specialists divided into four Commissions, examined in detail the topics laid down in the terms of reference and prepared general recommendations for the Conference;

— audition and screening sessions, and plenary sessions (March 17th to 22nd) devoted to the examination of the development of educational radio and television since the Tokyo Conference of 1964 and to the study of the conclusions and recommendations of the Commissions of the seminar.

Terms of reference of the four commissions

Preamble.

The terms of reference of the Commissions, which were sent to delegates before the opening of the Conference, were defined as follows :

The widely different activities usually referred to as « educational radio and television » reflect contemporary phenomena : a greater degree of interdisciplinary contact and the development of mass communication media.

On the one hand, education by radio and television is possible only by the grouping of three very different sorts of skills : educators, artists and technicians are brought together within the framework of the same organizations and co-operate in the same productions.

On the other hand, the responsible organizations assume a new type of relationship : mass communications. At national or international level, responsibilities which were once so clearly defined are now inextricably mixed : National Education, Information, Social and Economic Affairs. Hence, objectives can be defined and resources attributed only in relation to *social and economical planning*.

The International Organizing Committee felt that these two major and obviously complementary phenomena should be clearly separated so that a useful dialogue might be opened within the first two commissions of the Conference.

COMMISSION ONE (*Pedagogy and Production*) establishes the encounter of three types of professionals involved together in pedagogical expression and techniques — An interdisciplinary approach should lead to bringing together content and the form given to it, the situation of the audiences and the practical means which make new forms of teaching possible.

This first — professional — dialogue implies another one, more specifically administrative. COMMISSION TWO (*Organization and Planning*) brings also together specialists of very different kinds : civil servants from the Ministries responsible for educational aims, directors of the executive organizations, administrators responsible for evaluating the stages of the development. There is no need to dwell on the difficulties of *adjusting means* to ends when attempting to forecast *changes* in industrialised countries as well as *innovations* called for in developing countries.

But it seemed also that movement should be proved by moving : the improvements of educational radio and television have been such all over the world as to authorize, and often demand, *a triple current of exchange informations, of productions, and of persons.* One can even say that COMMISSION THREE (*Exchange and Co-operation*) foreshadows what might remain after the short session of a Conference : a whole system promoting the development of exchanges, especially of professionals (specialists, technical assistance or courses for trainees).

COMMISSION FOUR (*Pedagogic Application of Research*) is devoted to research. This term sometimes gives rise to certain reserves : the ambiguity should be cleared up. Accordingly — very modestly, but no doubt usefully — the functions of Commission Four determine its aims as being comparison, méthod and detailed study. Being marked out as the auxiliary of the other commissions, it groups research workers having sorts of supporting responsibilities : to define a *terminology* and methods of checking is certainly vital, as likewise is a deeper investigation of those various secrets for efficiency which are called : *visualization participation* and *environment.*

Finally, conferences are always threatened by two kinds of ambiguities which go together : those of terminology and those of allocating duties. It is not enough to attribute them between commissions — there must be also agreement as to the terms defining the commissions' functions. This is why the General Secretariat, encouraged by the International Organizing Committee, thought it necessary to prepare three working instruments which might appear to be three innovations :

— *a professional vocabulary*, first, fixing the equivalents between words from one language to another, and, to start with from French to English ;

— *an index of the main terms* contained in the Commissions' terms of reference, provisional definitions being proposed for each of them ;

— *a draft classification of information*, foreshadowed by the way in which the documentation on display during the Conference will be organized.

In spite of their being submitted merely for inventory purpose one may hope that these working instruments will be rapidly reviewed and revised by the appropriate commissions, so that they can ensure the highest efficiency to collective deliberations.

Commision I : Pedagogy and Production

The *conceiving*, *planning* and *production* of educational radio and television programmes connect inevitably the worlds of education, expression and technology.

Commission One will draw up three inventories of all the questions concerning respectively :

— the main aspects of educational radio and television according to audiences, and the criteria by which they may be described,

— relations between the specific features of an educational action and the techniques of production employed,

— programme production staff, the sharing of responsibilities, and the training of specialized personnel.

I,1 TEACHING SITUATIONS AND METHODS

To begin with the various teaching situations suitable for transmission of a radio or television message will be studied :

— reception by individuals not organized at all, with or without the support of explanatory publications;

— reception, usually collectively organized, and supervised by monitors or advisers providing individual or collective exploitation of the message;

— reception integrated into ordinary educational activities which it strengthens or enriches; in such cases, the presence of qualified teachers is assumed.

Whatever situation is considered, it seems that the composition and use of these messages may be based on any of the following three methods :
— the « authoritative » approach, through the use of statements (talks, lessons, demonstrations, reports, and so on);
— the « active » method, based on the principle of arousing the pupil's interest and calling on his participation during and after the programme;
— self-teaching methods, grounded on research into the psychology of understanding and the pedagogy of learning.

On the basis of this classification, comparisons will be made between similar experiments in order to study individual cases. In connection with the research workers of the Fourth Commission, responsible for drawing up a terminology, this should lead to the establishing of a descriptive catalogue of the main aspects of educational messages usually broadcast on radio and television.

When examining the applications of these ideas to the teaching of certain subjects an attempt will be made to isolate some significant experiences (items I,11-I,18).

I,2 PROGRAMMES AND PRODUCTION

Starting from an analysis of the specific features of an educational production, cases will be studied in which it had been decided to specialize the technical means to be used for the production.

— A study will be made of the various production means which unite educators and producers elaborating a series of broadcasts constituting an educational programme. Special attention will be devoted to the various ways of programming and supervising the production.

— The various production processes used for handling a single subject will be compared. Some universal problems and the way they are dealt with at present will be studied thus : filmed or live broadcasts, specific radio or television devices (insert, superimposition...), special devices for arousing the listener's or spectator's activity (sound or visual blanks, insertion of auditor's feed-back...) special effects, dramatization and reconstitution, radio and television reporting techniques, and so on.

— Finally some recent scientific developments in educational production will be examined, in particular, what has been learned from programmed analysis, and the application, at production level, of checking the effectiveness of a broadcast.

I,3 PROFESSIONAL CHARACTERISTICS OF SPECIALIZED PERSONNEL

— Starting from the descriptions of the mechanisms already examined (I,2), associating various specialists in programming and production, an attempt will be made to define the practical functions of the different kinds of personnel, and to specify the major professional characteristics involved.

— The recruitment, selection and guidance of permanent staff, educational or technical, as well as of occasional collaborators will be considered next. An inventory of various training procedures (integrated training institutes, on-the-job training, outside schools) will also be drawn up.

— Furthermore, and in connection with the analysis of the various categories of reception (I,1), the problems of selecting and training the user personnel will be considered.

In all cases, care will be taken to distinguish between the functioning of organizations in industrialized countries and in developing countries.

Commission II : Organization and Planning

The establishing or developing of educational radio and television involves short, medium and long-term decisions. These decisions, founded upon the needs and resources of States, must be backed by an awareness of the efficiency and cost of the various types of educational radio and television. They must also fit in with development prospects and professional structures.

II,1 OUTPUT AND EFFICIENCY OF DIFFERENT TYPES OF EDUCATIONAL RADIO AND TELEVISION

Have the various types of educational radio and television proved themselves in terms of output and efficiency? On the basis of quantitative and qualitative results from various significant experiments, the Commission will attempt to draw up a balance-sheet of the possibilities and limitations of educational radio and television.

In order to make a synthesis of the many existing results, the main distinction will be made between four types of educational radio and television, characterized by the aims assigned to them :

— improving traditional education in countries already having well developed educational services;

— extending education when it proves to be inadequate;

— within the framework of basic education and literacy (developing countries);

— as a contribution to vocational training and adult education (refresher courses permanent education).

For these four types, the balance-sheet will present the results in terms of :

- syllabus (subjects, levels, teaching methods);
- audiences (age, reception conditions);
- means used (radio and television).

II,2 ECONOMICS OF EDUCATIONAL RADIO AND TELEVISION

A second balance-sheet will be drawn up on the basis of what has already been done. It is related to the general economics of educational radio and television.

First, the Commission will attempt to define schemes which allow for a distinction between various budgetary items :

- the conception of programmes and production of broadcasts;
- the publication and distribution of accompanying documents;
- the transmission, broadcasting or distribution of programmes;
- the reception, utilization and checking of programmes;
- the training of specialized personnel.

A distinction will be made between operational costs, investment costs and amortizations. With this methodical approach, model budgets will be drawn up.

After studying experiments from the economic angle, the delegates will attempt to arrive at an estimate of the various costs and in order to compare them, they will distinguish :

- the means employed (radio or records, distribution or television, film or live, and so on);
- the importance and structure of the organizations.

Among other things, these estimates will make it possible to evaluate the economic feasibility of educational radio and television.

II,3 PLACE OF EDUCATIONAL RADIO AND TELEVISION IN THE PLANNING OF EDUCATION

Educational radio and television planning implies a medium and long term study of the consequences of the preceding balance-sheets in relation to the educational, economic and social objectives, and the financial, technical and pedagogic resources of the State.

Starting from an analysis of some significant examples of planned or integrated educational radio and television, the commission will consider :

- how the development of educational radio and television can be organised, with due regard to the problems raised by the development of the existing means employed, or the financing and economic feasibility of new equipment for production, broadcasting and reception;

— how the planning of educational radio and television development may be brought into line with the socio-economic development prospects in a State, and the planning of traditional means within the framework of its educational system.

II,4 STRUCTURE AND ORGANIZATION OF SERVICES

Finally, the development of educational radio and television implies that certain administrative problems must be solved. On the basis of a preliminary over-all survey of the organization of education and radio throughout the world, the commission will examine :

— how the radio and television organizations and the various governmental bodies having some educational responsibility, work together;

— which original administrative structures would allow the grouping of responsibilities within an educational radio and television organization.

This twofold study leads to a definition of the organization which could be recommended, with due regard to the specific situations of both educational broadcasting and education. In any case, whatever the formula adopted — single or " attached " organization — the commission should attempt to describe the most appropriate professional structures, especially those which affect :

— the relations with users,

— the relations with organizations for supervising education.

Commission III : Exchange and Co-operation

International co-operation in educational radio and television is concerned essentially with exchange of information, the exchange of audio-visual documents and of personnel.

The commission will have to analyse the administrative technical, legal and financial arrangements involved in such exchanges and, in particular, to establish the priorities to be respected, on the basis of what is being done at present and in connection with institutions likely to contribute to this.

III,1 EXCHANGE OF DOCUMENTS AND PERSONNEL

First of all, an attempt will be made to define a classification of written information, with particular reference to :

— communications from experts, distributed to the delegates.

— the presentation of documents forwarded to the Conference by the different organizations,

— analytical criteria developed during the seminar sessions by the three other commissions.

Furthermore, the commission will examine problems involved in the analysing and selecting of the documents, as well as in their circulation.

The commission will also study the possibility of exchanging professional personnel (trainees and experts, educators and research workers). It will work out ways of assembling all data which could usefully be placed at the disposal of organizations in order to facilitate these exchanges (professional characteristics, administrative criteria, permanent updating of supply and demand...).

III,2 THE CO-PRODUCTION OF EDUCATIONAL PROGRAMMES

As legal, administrative and financial problems which are inevitably raised by any international co-production are generally solved through bilateral or multilateral agreements, the commission will try mainly to define :

— The subjects or contents which are most suitable for international co-production.

— Possible ways of handling problems involved in adaptation; translation and joint teaching.

— The most practical ways of facilitating the carrying out of such projects : basic illustration, sequences, filmed inserts or illustrative material.

III,3 INTERNATIONAL DISTRIBUTION OF EDUCATIONAL PROGRAMMES

In the light of the most recent experiences, the commission will examine the possibilities of exchanging educational programmes. It will examine legal and financial difficulties (copyright, export taxes, currency transfers...), technical difficulties (standardizing, means, compatibility of supports...).

The Commission might establish and circulate a catalogue of production, taking into account the twofold study mentioned above

III,4 THE DISTRIBUTION AND BROADCASTING OF PROGRAMMES BY SATELLITES

As a subject for study and reflection, the utilization of satellites is merely a particular aspect of international exchange and co-operation in regard to educational programmes. But it also affords a striking example of the advance certain technical means have obtained over the study of their employment.

— Accordingly, a study should first be made of the likely short-term development of these technical means in various countries and the prospects for their immediate employment.

— A study should be made of how this mode of transmission affects the questions coming within the terms of reference of Commission II (relations between organizations, equipment and operational costs).

— On the basis of these data, an attempt should be made to determine how this mode of transmission affects the work done by Commission I (teaching methods, production techniques).

Finally, the delegates should consider what influence these new prospects will have on the future of international co-operation — on a short, medium and long-term basis.

Commission IV : Pedagogic Application of Research

The aim of Commission Four is to confront the research work of educational radio and television professionals and of various specialists working in the same field.

Three themes will be considered :

- — Terminology,
- — Research Information,
- — Methods for evaluating and checking results.

IV,1 TERMINOLOGY

While radio and television are relatively recent phenomena, their use for educational purposes is even more recent. The vocabulary related to them has developed empirically and ambiguities in terminology still exist between one language and another and one professional group and another.

In order to facilitate the work of the delegates, the Organizing General Secretariat has prepared two documents :

a. A *vocabulary* of 300 words currently used in the technical and production fields, providing the equivalent terms from English to French and from French to English.

b. An *index* of key terms with definitions. Whereas the purpose of the first document is merely to make translation work easier, the index is intended to enable the delegates to agree on the content of terms. Obviously with such a delicate matter the Organizing General Secretariat can only putforward a preliminary draft, accompamied by a brief list of similar works in other languages. A " working group on terminology ", set up within the framework of Commission Four, will therefore be made responsible for comparing this preliminary draft and the outline analysis it implies with the various elements that Commissions One and Two may provide, in order to decide as quickly as possible on the terminology that the delegates will use.

Finally, the Commission will consider the possibility of extending and developing both vocabulary and glossary, particularly in other languages.

IV,2 RESEARCH INFORMATION

The delegates will have to extract from all research work related to the aims of the Conference such information as might be useful to professionals in educational radio and television. For this comparison between disciplines to be really valuable, it seemed essential to restrict the aims to the following four topics :

— *Visualization.* All subjects do not lend themselves in the same way to visualization. Depending on whether a notion, a skill or a piece of knowledge is to be conveyed, the image will be treated differently.

a. What are the different technical devices for visualization (diagrams, special effects, mock-ups, etc.)?

b. How necessary and effective are they in relation to the subjects taught and the level of the audiences?

— *Motivation.* Under this heading will be included every element in an audio-visual message not strictly didactic but which is intended to arouse the pupil's interest.

a. What are the main examples of motivation processes?

b. How necessary and effective are they in relation to the subjects taught and the level of the audiences?

— *Participation.* Educational radio and television are usually accused of replacing the traditional dialogue between teacher and pupil by a one-way audio-visual teaching. thus inducing a state of apparent passivity in the spectator being taught. Participation techniques aim at coping with this situation by attempting to associate in an original way pupil and teacher in the audio-visual message.

a. What are the different participation techniques?

b. What are their variants in relation to subjects and audiences?

— *Environment.* Knowing the social and cultural context of an audience is necessary before undertaking any educational work.

a. What is the inter-action between specific educational radio and television programmes and the whole of audio-visual messages reaching the pupil?

b. How is a pupil affected by his family, social, geographical and historical background?

Papers on research in particular should be accompanied by the presentation of experimental audio-visual documents.

IV,3 METHODS FOR CHECKING AND EVALUATING RESULTS

Radio and television education cannot be adjusted to audience reactions in the course of the broadcast. Consequently the use of systematic methods for evaluating and checking results is all the more necessary.

In the light of the communications received and the complementary bibliography, the Commission will endeavour to draw up a list of pre-testing methods of evaluation and post-testing (enquiries. surveys), from the simplest to the most complex, bearing in mind that the study of the results themselves falls within the competence of Commission II.

Audition and Screening Sessions
Plenary Sessions

Two series of sessions completed the work of the seminar, the terms of reference of which are defined in the preceding pages.

The International Organizing Committee, in fact, thought it necessary to complete the sessions devoted to the interdisciplinary analysis of educational radio and television by, first, the presentation of outstanding educational radio and television programmes produced by the organizations, and, secondly, by lectures giving a comprehensive picture of recent developments in educational radio and television in the various parts of the world.

Audition and Screening Sessions.

The various organizations participating in the Conference had been invited to present a selection of their best educational radio and television programmes to the General Secretariat. The International Organizing Committee had given a Selection Committee the task of programming these productions which were presented to delegates on closed-circuit equipment installed in the lecture-rooms.

As far as possible the programmes relevant to the topics studied by the commissions were presented in the framework of the seminar; the others were programmed late in the afternoons during the seminar and three times a day while the plenary sessions were taking place. In Chapter 5 of this volume you will find a list of the programmes which were presented.

General reports.

It was the International Broadcasting Organizations which were given the task of preparing the reports presenting a comprehensive picture of the development of educational radio and television throughout the world since 1964, the date of the last Conference. The International Organizing Committee had, in fact, adopted this formula because of the extent of recent developments.

Thus in the course of the last five mornings of the Conference assembled in plenary session, general reports were given illustrating the activities of active member organizations of :

— the European Broadcasting Union;
— the International Radio and Television Organization;
— the Asian Broadcasting Union;
— the Union of National Radio and Television Organizations of Africa;
— the Inter-American Association of Broadcasters.

You will find the text of these reports in Chapter 3 of this volume.

General Working Directives

Preparatory Work.

In the preceding pages the terms of reference of the International Organizing Committee as well as the aims assigned to the Conference are recalled. In order to enable Conference members to attain these objectives important organizational measures were taken in the course of 1966.

Essentially they consisted of the work of animateurs and international experts, the dispatch of numerous questionnaires, the analysis of the reports established by various organizations and preparatory meetings between chairmen and rapporteurs. But so as to understand their precise functioning it is necessary to retrace them step by step.

1. *Differentiation of the Four Fields of Study.*

In the first stage the International Organizing Committee in a meeting held in February 1966 approved the regrouping of the topics of the Conference under four major headings to be studied by four different commissions. In this regrouping stress was laid on teaching methods, planning, international problems and research.

2. *Use of international Animateurs.*

In the second stage international experts selected by the International Organizing Committee were called in to examine in detail the topics assigned to the four commissions and to prepare for the second meeting of the Committee in September 1966 a preliminary definition of the terms of reference of the commissions.

3. *Drafting of the Terms of Reference for the Four Commissions.*

On the basis of the reports drawn up by the animateurs and suggestions made by the Committee a group of French experts, presided over by M. Pierre Schaeffer, head of the Research Department of the O.R.T.F., then drafted the commissions' terms of reference. The problems having been clearly formulated, it was possible from thereon to coordinate a flow of information and comments.

4. *Dispatch of Questionnaires to the various Organizations.*

It was on the basis of the above-mentioned terms of reference that the chairmen and the rapporteurs of the commissions, who had in the meanwhile been designated by the Committee, established the working methods and agendas for each commission. The agendas pointed to a tight schedule for each topic; the method used to obtain the collaboration of the organizations in relation to this preliminary analysis consisted essentially of the dispatch of extremely detailed questionnaires.

5. *Analysis of Questionnaires.*

In the fifth stage — still preliminary to the Conference — the replies to these questionnaires were analysed. Animateurs and experts compared the various data supplied by the organizations and prepared debating references to serve as starting points or the discussions of the seminar. The work they have done is outlined in the text of their reports called, according to the terminology of the Conference, « Summing-up papers », and presented in Chapter 2 with a list of the papers submitted by the various organizations.

It was only at this moment that the Conference opened its proceedings.

OPENING OF THE CONFERENCE

6. *The Seminar* : *Proceedings of the Four Commissions.*

The seminar which was composed of four commissions met in Paris from Wednesday, 8th March to Thursday, 16th March 1967, in accordance with the agenda established by the chairmen.

7. *Conclusions of the Four Commissions presented in Plenary Sessions.*

The conclusions of the commissions' proceedings were delivered in a seventh and final stage. In the course of four afternoon sessions between Friday 17th and Wednesday 22nd of March the chairmen and rapporteurs presented to all Conference members assembled in plenary session the final reports of their commissions as well as the recommendations and conclusions previously submitted to the SteeringCommittee.

Thus the agenda, working methods and questionnaires of each of the four commissions and of the plenary sessions progress-ively attained their final form which is described below.

Commission I

AGENDA

To arrive at the three lists defined in the terms of reference of the first commission a certain number of topics were chosen.

Theme 1 : *Teaching Situations and Methods.*

I,11 The training of teachers in service.
I,12 Social advancement and vocational training (including agricultural education).
I,13 Social education (civics, adaptation to modern life, to urban life).
I,14 Various aspects of literacy.
I,15 Teaching mathematics to children of school age (primary and secondary levels).
I,16 Teaching a foreign language to beginners (all ages, in or out of school).
I,17 Higher education broadcasts for isolated students working for degrees or equivalent qualifications.
I,18 Special teaching methods (handicapped or over-gifted children).

Theme 2 : *Programmes and Production.*

I,21 The use of still pictures and caption-stands in television and radiovision.
I,22 Role and production of animation.
I,23 Role and production of a film.
I,24 The use of dramatization in radio and television (literature, languages, history, etc.).

I,25 The use of reportage techniques in radio and television.
I,26 What can be achieved with a small studio?
I,27 The role of accompanying material (publications, booklets, « kits », records).
I,28 Recent scientific developments in educational production : Programmed analysis. Application at production level of tests on the effectiveness of a programme (joint session with Commission IV).

Theme 3 : *Professional Description of Specialized Personnel.*

I,31 Definition of the practical functions and study of the professional relations between the different teams involved in 'making' a programme. Main professional descriptions. Training of teams to design and produce programmes.
I,32 Training of programme-users.

METHOD

The work of this Commission was based :

for theme 1 on summaries presented by animateurs using :

a. descriptions of programme-series which organizations were asked to supply on the basis of the questionnaire given below,

b. individual contributions from organizations.

for theme 2 on summaries presented by animateurs using :

a. audio-visual material contributed by organizations to the Conference,

b. individual contributions proposed by organizations.

for theme 3 on individual studies and audio-visual material.

QUESTIONNAIRE

Organization Country	Radio Television	**COMMISSION I** **Questionnaire**

1 Nature of broadcast (radio, radiovision, television).

2 Subject : is the broadcast integrated into a syllabus laid down by the educational authorities?

3 Brief description of the series.

4 Nature of the audience : age, educational level, environment, composition, motivation, organization and size.

5 Nature of receiving-end supervision. Its qualifications in relation to subject-matter.

6 How are the broadcasts integrated into an existing educational system? What part do they play in relation to other methods of teaching in achieving the educational objectives?

7 Other particular purposes of the broadcasts. What types of teaching method are used and for what reasons?

8 What sort of accompanying material was provided and to whom? How far in advance of transmission was it distributed and in what conditions? Who bears the cost?

9 What other complementary activities are anticipated or wished for? Should any exist, how are they organized?

10 What were the principal problems and difficulties encountered?

11 To what extent has the effect of the broadcasts been evaluated? (intrinsic value, extent of use, etc.).

a. What, if any, is the specific value of these programmes from an educational point of view?

b. What secondary effects or original (perhaps unforeseen) educational contributions have been achieved, not only among the primary target audiences but also amongst others who may have been receiving the broadcasts?

Commission II

AGENDA

The agenda of the commission differs from the programme of study laid down in the text giving the term of reference of the commission. The original denominations have, however, been retained.

Theme 1 : Output and Effectiveness of the various Types of Educational Radio and Television.

II,31	The instruments of planning. Outline of the various methods of assessment in educational planning : aims, means, criteria of economic feasibility. Presentation of replies to the questionnaire, definition of aims and search for an appropriate typology.
II,11	Educational radio and television for improving traditional education in countries having well-developed educational systems.
II,12	Educational radio and television for extending education when it is inadequate.
II,13	Educational radio and television in literacy campaigns.
II,14	Educational radio and television in vocational training and adult education (permanent education).

Theme 2 : Economics of Educational Radio and Television.

II,22	Standard budget and approximate cost of autonomous educational radio and television services (design, production, transmission).

II,23	Standard budget and cost of accompanying material.
II,24	Economics of reception, utilization of broadcasts and training of users.
II,25/26	Comparative study of the economics of the different media (radio, records and films, etc.) and of video and film techniques.

Theme 3 : *Place of Educational Radio and Television in Planning.*

II,32	Synthesis of preceding data and description of the additional items required by planners.
II,33	Study of some experiments in planning.
II,34	Establishment and implementation of a plan for future research.

Theme 4 : *Structure and Organization of Services.*

II,41	General survey of the organization of education and broadcasting in the world.
II,42	Relations between broadcasting organizations and the various governmental education departments.
II,43	New administrative structures allowing for reassignment of responsibilities.
II,44	Prerequisites for the efficient functioning of an educational radio and television service.

METHOD

The animateurs of this Commission have organized the work on the three themes :

— on the study of the replies of the various organizations to the questionnaire forms (reproduced below);

— on the study of the general contributions sent by the organizations in relation to the themes defined in the terms of reference of the commission;

— on the study of specific contributions sent by the organizations in relation to the items on the agenda.

QUESTIONNAIRE

The four questionnaire forms of Commission II correspond to themes 1, 2 and 4 of the Commission. Together, they allow for a complete technical, administrative and pedagogical description of an educational radio and television operation. By

« operation » is meant a programme production, broadcasting and receiving entity, which aims at either :

— improving traditional education (primary, secondary and university education);

— or extending education when it has proved to be inadequate;

— or promoting basic education and literacy campaigns (developing countries);

— or contributing to vocational training prior to starting work or during professional life (refresher courses, etc.).

Country Name of person likely to provide additional information	Type of operation Radio Television	**COMMISSION II. Card 1** **Description of aims and context**

A. Definition of aims and background of operation under consideration.

— To what extent do the aims you are trying to achieve fit into the general educational aims of your country ?
  - How did your project originate?
  - Describe its background briefly.
  - What is the present situation in the programming of the operation in question?

— Specify, in terms of the aims defined earlier, to which type of radio or television your operation belongs.

as compared with traditional education, is it
  - accompanying radio or television (documentary broadcast enriching a lesson);
  - palliative radio or television (broadcast complementing a lesson);
  - substitute radio or television (broadcast replacing a lesson).

without reference to a traditional system, is is a case of autonomous radio or television (totally independent) ?

— What is the relative share of your activity in the general educational aims of your country?

B. Description of audiences.

  - what age group or groups are concerned?
  - which sex?
  - which social and professional categories?
  - numerical evaluation
  - initial qualification
  - final qualification
  - type of background for reception, if any
  - effective qualification.

C. Description of programmes.

— What is the nature of the educational programmes in which radio or television play a part?
  - level
  - subjects

— As compared with the general school syllabus, what is the share of educational broadcasts in each of the subjects considered?
  - quantity
  - duration of period
  - frequency of broadcasts (number per week, per month, per year).

D. Technical description.

— Description of broadcasts (number of series, programmings, duration, levels, subjects, etc.).
— Description of production (technical means used, studios, personnel, etc.).
— Description of broadcasting (extent of networks, strength, area covered, distribution).
— Description of reception (number of receiver sets, geographical distribution, technical and practical reception conditions).

Country Name of person likely to provide additional information	Type of operation Radio Television	**COMMISSION II. Card 2** **Results and educational effectiveness**

Output and Educational Effectiveness.

— To what extent has radio or television proved its worth in the operation under consideration?

— Does the experience acquired by radio or television make it possible to define the students' level of knowledge and check whether there has been an improvement in their retention and comprehension ability?

— Have the control methods used enabled you to check whether, for the same pedagogic content, teaching by Radio or television requires less time, the same amount of time or more time than that required for traditional teaching.

— Is effectiveness identical in terms of :

- age
- the subjects taught
- the educational level (primary, secondary, etc.)
- the technical means and teaching methods used ?

— Have you compared the results already acquired with those of traditional education?

— What higher contribution can your activities make than traditional education and what material achievements other than those offered by traditional education?

— What are the limits of such activities?

— Among the quantitative elements concerning the results, can you indicate the evolution in the audience during the last five years, the probable evolution expected, the repetition rate, the fall-out rate?

— What qualifications are required from supervisory personnel for educational radio and television?

— What credit may be attached to the whole of the given conclusions?

Country Name of person likely to provide additional information	Type of operation Radio Television	**COMMISSION II. Card 3** **Costs and Financing**

A. General economics and financing of the operation.

— What is the cost of the different budget items of the operation (preferably in dollars)?
- cost of programme design and programme fabrication;
- cost of editing and distributing accompanying material which cannot be broadcast or televised;
- cost of transmission, broadcasting or distribution of programmes;
- cost of reception, exploitation and checking of programmes;
- cost of specialized personnel, in particular supervisory personnel at the reception end (training, salary, etc.).

— What is the average cost per individual in the operation concerned?

— Can it be compared with the average cost per individual in traditional education?

— Does education by radio offer a saving in teaching staff (number, salary) — personnel at the production end end reception and — as compared with the staff required in traditional education?

— Among the elements of comparison between traditional education and education by radio and television, can you establish the ratio cost/profit
- per teacher
- per teaching hour
- per student
- per student who has graduated.

— Who bears the cost of financing (investments, operating cost)?

B. Additional data.

— Which criteria were used for the selection of radio or television?

— Was the architecture of the reception halls the subject of special studies, lay-out or construction?

— Does the distribution of reception centres using the programmes raise any special problems?

— Are there any complementary audio-visual media (films, records, video-tape recordings)?

— How is distribution organized?

APPENDIX TO CARD 3
concerning method of approach for basic economic data

COMMISSION II.
Card 3

In order to facilitate the study of cost prices, we suggest that you take them on the basis of an individual receiving an educational element by radio or television.

Generally speaking, this cost price might be expressed as follows :

$$Pi = aP + bD + cR$$

in which *a*, *b*, *c*, are functions of the number of pupils and P, D, R, are respectively the prices of one production, one broadcast and one reception.

It will first of all be noted that the three functions *a*, *b*, *c*, are different :

- — factor *a* is equal to the inverse of the total number of individuals (Nt) to be affected by the given production. Theoretically, it is the sum for a number *n* of broadcasts, or each of the cases, of the number of receiver sets (Nr) multiplied by the number of students per receiver set (Ne) and by the number of utilizations (Nu). In practice, the number *n* will be arbitrarily limited in terms of a production utilization probability and, for each of the broadcasts, an average value of Ne and Nr will be considered;
- — factor *b* is equal to the inverse of the number of individuals who will be affected by a broadcast (Nt) of the given production. It is therefore the product of the terms mentioned above, *i. e.* : number of students (Ne)multiplied by number of receiver sets (Nr) number by of utilizations (Nu);
- — factor *c* is equal to the inverse of the number of students per receiver set, also considered here at its average value for collective receptions;
- — factor P consists of the sum of :
  - amortizations of the technical investments corresponding to this production (Ap) (studios, technical equipment, etc.);
  - technical costs of production (Tp) (personnel, power, consumable equipment, etc.);
  - educational costs of production (Pp) (teachers, producers, accessories, etc.);
  - the total costs of retransmission (Rd) (producers, teachers, etc.);
- — factor D consists of the sum of :
  - amortizations of the technical investments corresponding to this broadcast (Ad) (pressing, printing or transmissions, etc.);
  - technical costs of retransmission (Td) (personnel, consumable equipment, power, etc);
- — factor R consists of the sum of :
  - amortizations of the technical investments in reception equipment (Ar) (receiver sets, record-players, etc., and possibly premises);
  - costs of technical reception (Tr) and educational reception (Pr);
  - costs corresponding to accompanying material (Da).

These different terms may therefore be expressed as follows in a general formula :

$$Pi = \frac{1}{\Sigma\ Nr.Ne.Nu}(Ap + Tp + Pp + Rd) + \frac{1}{Nr.Ne.Nu}(Ad + Td)\frac{1}{Ne}(Ar + Tr + Pr + Ne.Da)$$

Country	Type of operation	**COMMISSION II. Card 4**
Name of person likely to provide additional information	Radio	**Structure and Organization**
	Television	

A. Organization of Education and Broadcasting.

1. In your educational system, what is the relative importance of the following structures :
   - units on a national basis
   - federal
   - autonomous ?
2. To what extent do you have an educational plan? To what extent does broadcasting have a place in this?
3. What broadcasting system is used?*
   - government organization
   - public corporation
   - commercial undertaking
   - public service local station
   - mixed system.

B. Connections between Broadcasting Organizations and the Different Government Departments responsible for Education.

1. What are the relations between broadcasting organizations and educational organizations in your country?

   Who is responsible for educational broadcasting ?
   - the Ministry of Education
   - a local education authority
   - a public organization
   - a commercial undertaking
   - a mixed system.

   Does the organization responsible for educational broadcasting have :
   - its own studios (how many?)
   - its own sound and visual broadcasting personnel (nature and composition of staff?)

   Does the organization responsible for educational broadcasting use :
   - its own transmitters
   - a public service
   - a commercial arrangement?
2. Which other government departments are responsible for education?
3. What relations exist between these departments and broadcasting organizations ?

C. What Administrative Structures allowing Educational Responsibilities to be grouped within the Educational Radio and Television Organization.

- exist
- should be set up?

Briefly describe the professional structures concerning :

- liaisons with users
- liaisons with educational supervisory organizations.

---

* I several of these types of organization exist in you country, please state to which one you are referring in your answers.

Commission III

AGENDA

This agenda corresponded to the list of items included in the Commission's terms of reference.

Theme 1 : Exchange of written information and personnel.

- — Classification of written information on educational radio and television — circulation of information (joint session with Commission IV).
- — Exchanges of professional personnel.

Theme 2 : International co-production of educational programmes.

- — List of co-productions achieved.
- — Language problems involved in international co-productions.
- — Survey of the most practical ways of promoting international co-productions.

Theme 3 : International distribution of educational programmes.

- — Practical and legal problems raised by the international distribution of educational programmes — financial difficulties arising from the distribution of educational radio and television programmes.
- — Technical difficulties arising from the distribution of educational radio and television programmes.
- — Production catalogue.

Theme 4 : Distribution and transmission of educational programmes by satellites.

- Prospects for the use of satellites — list of achievements.
- How this method of transmission affects the work of Commission II.
- How this method of transmission affects the work of Commission I.

METHOD

This Commission's work was based on the reports from national and international organizations on their experience in the field of co-operation and exchange. As far as possible, these reports were illustrated by audio-visual material.

QUESTIONNAIRE

The three questionnaire forms for Commission III correspond to themes 1, 2 and 3 of the Commission.

Organization Country	CONFIDENTIAL QUESTIONNAIRE To assist in preparing Commission III's report	**COMMISSION III. Card 1** **Exchanges of written information and personnel**

A. Exchange of written information.

a. Have you a special department for the dissemination of documentary material ?
b. If so, does it send material abroad, and to which areas?
c. Does the department receive such material? From which areas?
d. Does the material consist of periodicals, textbooks, other books, catalogues or card-indexed information?
e. In what form is the material presented?
f. How is it classified?

B. Exchange of personnel.

a. Does your organization employ personnel from foreign countries?
b. From which organizations are they drawn?
c. To which professional categories do they belong?
d. What was their administrative status in their home organization?
e. What kind of work were they offered, and on what terms?
f. Why did they move to another country?
g. Was their transfer effected under some kind of agreement (multilateral, bilateral, general, special, economic or cultural)?
h. Do you send professional members of your organization abroad?
i. If so, to which areas and on what terms?
j. What information do you consider could usefully be made available to you with a view to carrying out such exchanges (professional characteristics, administrative status, etc.)?

What recommendations or suggestions would you like to make for increasing exchanges of written information and personnel?

Organization Country	CONFIDENTIAL QUESTIONNAIRE To assist in preparing Commission III's report	**COMMISSION III. Card 2** **Co-production of educational programmes**

A. Types of co-production.

- *a.* Have you participated in the co-production of educational programmes? With which organization(s) ?
- *b.* Did this involve a series of broadcasts? Separate broadcasts? Broadcast sequences? Raw material?
- *c.* Do you plan on making use at a more or less early date of artificial satellites for educational purposes?
- *d.* Will this be a national project? International?
- *e.* In the event of an international project, what relations do you consider establishing with other organizations?

B. Nature of programmes.

- *a.* How was agreement reached as to the subjects selected? As to the programme contents?
- *b.* Did you take into account the school programmes operative in the contracting countries?
- *c.* In the case of a satellite project, how do you plan to set up programmes in terms of the area to be covered (if this applies)?

C. Language problems.

- *a.* Have you encountered obstacles of a linguistic nature?
- *b.* Was it a problem of adaptation? of translation? of another nature?
- *c.* In the case of a satellite project, how do you plan to solve the language problems (if these arise)?

D. Nature of checks made.

- *a.* Have these broadcasts already been used in your country? with What results?
- *b.* Have these broadcasts been used in the co-producer country or countries? Which countries? With what results?
- *c.* To what extent did these co-productions come up to your expectations? What were the weak points in these undertakings?

What recommendations would you like to make with regard
to the co-production of educational programmes

66

Organization Country	CONFIDENTIAL QUESTIONNAIRE To assist in preparing Commission III's report	COMMISSION III. Card 3 **International distribution of educational programmes**

A. Nature of educational programme exchanges.

a. Does your organization make use of foreign educational programmes, does it make programmes available to foreign organizations?
b. What type of production was involved (radio — television — sequence — broadcast — « kit »)?
c. Was it a separate broadcast or a series of broadcasts?
d. What was the subject of these programmes?
e. For which public were they intended?
f. How was the choice of programmes made?

B. Legal Aspects.

a. What type of agreement was adopted by your country?
b. What were the aspects of questions of royalties, dramatic fees, actors' rights, other rights (if any)?
c. What special legal problems are raised by the use of artificial satellites (if appropriate)?

C. Financial aspects.

a. Do dispatches of educational programmes fall within the scope of economic agreements? cultural? others?
b. What financial agreements have been adopted?
c. Is the export of educational programmes from your country subject to taxes and duties? Which ones?
d. Did currency transfers create special problems for you? Which ones?
e. What were the financial problems involved in the use of artificial satellites?

D. Technical aspects.

a. Did a prior agreement exist as to technical norms with a view to providing suitable supporting elements?
b. Which supporting element was used? Why?
c. In the case of a satellite project, what difficulties of a technical nature have been encountered?

E. Catalogue.

a. Have you prepared a catalogue of productions which you could exchange?
b. Which information do you consider it essential to supply concerning a production you would like to exchange or borrow?

What recommendations or suggestions would you like to make as
to the international distribution of educational programmes?

Commission IV

In accordance with its terms of reference, Commission IV was considered an auxiliary of the other Commissions.

Its aim was :

1. to give a definition of the most current expressions in the field of educational radio and television,

2. to present a certain amount of research concerning visualization, participation, motivation and environment, with particular stress on the interest that these ideas have for educational broadcasters,

3. to explore new fields on the basis of traditional and new methods of verification.

To do this the work was divided between :

- — a « terminology » working party which met continuously during the seminar to establish definitions for the principal terms. This group consisted of two animateurs assisted by specialists and took the advice of experts from the different Commissions,
- — joint sessions of Commission IV with Commission I on recent scientific developments in educational radio and television and, with Commission III, on the exchange of written information,
- — finally, sessions devoted to information on research and methods of checking and evaluating results. In general, these subjects were the object of :
  - — a summing-up by an animateur,
  - — lectures by a certain number of experts,
  - — discussions organized by the Chairman.

AGENDA

In view of the preceding information, the complexity of this Commission's agenda seems less astonishing.

The full Commission had to re-assemble four times to examine the work of the « terminology » group.

Joint sessions with Commission I and Commission III were also arranged. The meeting with the latter resulted in the establishment of a working party about the exchange of documents; its conclusions are to be found in Chapter 4.

Ten sessions were devoted to theme 2, *i. e.* visualization, environment, participation and motivation.

Plenary Sessions

Apart from the plenary sessions devoted to the final reports of the Commissions, five other sessions during the Conference itself were devoted to the recent developments of educational radio and television in the world. These contributions were made by the international broadcasting organizations which had designated experts to prepare this work.

Their work was based, in particular, on the analysis of a general questionnaire which had been sent to all organizations participating; its elements are to be found on the next page.

THIRD E.B.U. INTERNATIONAL CONFERENCE ON EDUCATIONAL RADIO AND TELEVISION

DESCRIPTION OF ACTIVITIES

FORM 4

Name of organization

Full address

We should be much obliged if you would send us a detailed account of your organization's activities in the field of educational radio and television (about 150 lines, in French and in English if possible). We would appreciate if you could adopt the following plan so as to enable us to standardize to a maximum the lay-out of these documents which aim at providing the delegates with information :

1. General information.

- What is the general situation of education in your country? (general statistics, major problems)
- What part is played by educational radio and television? (present situation, description of its evolution)
- What are the main features of your activities in the field of educational radio and television?

2. General organization of educational radio and television.

- How is educational radio and television organized on the administrative level (relations with education al authorities, legal, administrative and financial status, status of personnel)
- What is the process used for preparing educational radio and television programmes? (integration of radio and television in planning and preparing programme series)
- How are programme design and production organized? (programme designing, composition of personnel teams, working methods, production equipment and technical aids)
- How are programmes broadcast? (description of broadcast networks, general broadcast schedules)
- How is reception organized? (audience, individual or group reception, reception supervision, connections with users)
- What accompanying material is used? (document design and preparation, contents, distribution organization)
- Do you carry out research work and what research work? (methodological research, production research, audience research)
- What connections exist with other audio-visual aids? (records, films, closed circuits etc.),

3. Description of programmes for the school year 1966-67.

- What is thevolume of all educational programmes as compared with all radio and television programmes?
- What is the aim of the programmes? Do they provide complete instruction by themselves or do they serve as a complement to instruction provided by other means?
- What are the educational levels of the various programmes?
- What subjects are taught by radio? by television?
- At which public are the programmes aimed?
- What are the results obtained?

4. International relations.

- What is the nature and extent of educational radio and television information exchanged with other organizations?
- What is the nature and extent of the educational radio and television programmes exchanged with other organizations?
- What is the nature and extent of exchanges in personnel and equipment you have made with other organizations?

5. Prospects of educational radio and television expansion and exchanges.

- What are your prospects of expansion?
- What are your prospects of exchanges in respect of information, programmes, personnel and equipment?

6. Special comments.

Officers of the Conference

Conference

President	Yoshinori Maeda **President of the Nippon Hoso Kyokai — Japan**
Acting Chairman of the Steering Committee	Jean Thomas **Inspecteur général de l'instruction publique — France**
President of the E.B.U.	Johannes B. Broeksz **Vice-President of the Stichting Nederlandsche Radio Unie — Netherlands**
Chairman of the International Organizing Committee	Jacques-Bernard Dupont **Director General of the Office de Radiodiffusion-Télévision française — France**
Rapporteur General	Italo Neri **Director of the Telescuola Centre, Radiotelevisione Italiana — Italy**
Deputy Rapporteur General	Christopher O. Kolade **Director of Programmes, Nigerian Television Service — Nigeria**

Plenary Sessions

Vice-Presidents

John F. White
President, National Educational Television — United States

V. K. Narayana Menon
Director General, All India Radio — India

Wlodzimierz Sokorski
President, Polskie Radio i Telewizja — Poland.
President of the International Radio and Television Organization

Eduardo Tironi Arce
Executive President, Television Universidad Catolica de Chile — Chile

Abel Hamid El Hadidi
President of the Administrative Board, U.A.R. Broadcasting Corporation — United Arab Republic

Commissions

COMMISSION I

Chairman	Richmond Postgate **Controller, Educational Broadcasting British Broadcasting Corporation — United Kingdom**
Rapporteur	Ignacy Waniewicz **Chief Programme Editor, Head of Educational Television Programmes, Polskie Radio i Telewizja — Poland**
Deputy Rapporteur	Michel Denel **Assistant to the head of the section for Educational Application Department, Institut pédagogique national — France**

COMMISSION II

Chairman	Amadou Mahtar M'Bow **Minister of Education — Senegal**
Acting Chairman	Yves le Gall **In charge of the Bureau for Research and Coordination, Secrétariat d'État aux Affaires étrangères, chargé de la coopération — France**
Rapporteur	Sten-Sture Allebeck **Assistant Head of School Broadcasting, Sveriges Radio — Sweden**

Deputy Rapporteur	Etienne Brunswic **Head of the integrated Television Circuits Section, Institut pédagogique national — France**

COMMISSION III

Chairman	Louis-Philippe Kammans **Director of Television Programmes, Radiodiffusion-Télévision belge — Belgium** **Chairman of the E.B.U. Study Group on Teaching by Television**
Rapporteur	Jack Mc Bride **General Manager, Nebraska Educational Television Commission — United States of America**
Deputy Rapporteur	Jean Besombes **Chargé de Mission in the Department of External Relations, Office de Radiodiffusion-Télévision française — France**

COMMISSION IV

Chairman	Wilbur Schramm **Director, Institute for Communication Research, Stanford University — United States of America**
Rapporteur	Fred B. Rainsberry **Supervisor of School Broadcasts and Youth Programming, Société Radio Canada/Canadian Broadcasting Corporation — Canada**
Deputy Rapporteur	Maurice Fauquet **Head of Research, Centre audio-visuel de l'École normale supérieure de Saint-Cloud — France**

PROGRAMME SELECTION COMMITTEE

Chairman	Mrs. Gertrud Simmerding **Head of School and Family Television Programmes, Bayerischer Rundfunk — West Germany**

Members Hans Julius Birkrem

Head of School Television, Norsk Rikskringkasting — Norway

Kenneth L. Fawdry

Head of School Broadcasting Television, British Broadcasting Corporation — United Kingdom

Georges Gaudu

Head of School Television, Institut pédagogique national — France

Sauveur Mineo

Head of School Radio, Institut pédagogique national — France

Frank R. Tappolet

Director of the International E.B.U. Seminar on School Television, Société suisse de Radiodiffusion et Télévision — Switzerland

GENERAL SECRETARIAT

Secretary General Jean Oudinot

Deputy Secretary General Alain de Chambure

CHAPTER 2

Seminar

This chapter groups the reports established by the animateurs and specialists for the study of the various topics of the commissions.

These reports are mostly the « summing-up » papers distributed to the delegates and presented by their authors. However, as the summing-up papers of Commission II in their entirety have been included in the Final Report, only a brief summary of the work done is given here. Moreover, the animateurs of Commission IV have, for this chapter, completely revised the papers which they had originally presented and it is this new version which is presented here.

In order to give the reader the maximum references, each commission will be :

— preceded by a list of the animateurs and experts who prepared the documents mentioned above,

— and a list of the working-papers submitted to the commissions by organizations and delegates.

Commission I

Officers

Chairman	Richmond Postgate **Controller, Educational Broadcasting — British Broadcasting Corporation — United Kingdom**
Rapporteur	Ignacy Waniewicz **Chief Programme Editor, Head of Educational Television — Polskie Radio i Telewizja — Poland**
Deputy Rapporteur	Michel Denel **Assistant to the Head of the Section for Educational Application — Institut pédagogique national — France**
Animateurs	Rudy Bretz **Vice-President of the National Educational Sciences Corporation — United States of America**
	Shigenari Futagami **Assistant Manager, School Broadcast Division — Education Department, Nippon Hoso Kyokai — Japan**
	Donald Grattan **Head of Further Education, Television — British Broadcasting Corporation — United Kingdom**
	Gerd Kadelbach **Head of Culture and Education Department — Hessischer Rundfunk — West Germany**
	Francis Norman Lloyd Williams **Head of School Broadcasting (Sound) — British Broadcasting Corporation — United Kingdom**

Rolf Lundgren

Head of School Broadcasting — Sveriges Radio — Sweden

Mrs. Alfredina de Paiva E Souza

Head of the Fundacao Joao Baptista do Amaral — Brazil

Lubor Pok

Assistant Head of Children's and Youth Broadcasting — Ceskoslovenska Televize — Czechoslovakia

Mrs. Maria Grazia Puglisi

Head of Teaching at the Telescuola Centre — Radiotelevisione Italiana — Italy

Thomas Singleton

Head of Training, Centre for Educational Television Overseas — United Kingdom

Edward Stasheff

Professor of Television — The University of Michigan, Ann Arbor — United States of America

Richmond Postgate

The Chairman of Commission I

I,1 Teaching situations and methods

INTRODUCTION TO THE THEME

1. In the terms of reference of Commission I nine factors were listed that define the *situation into which educational programmes* may be projected — those of educational level, of audience situation and of pedagogic approach. These factors are pre-existent to the programmes and are outside the control of the broadcasters who must seek to be in continuous and sensitive adjustment to them. The situations may themselves be modified by broadcasts : for example, broadcasts that encourage teachers to abandon an authoritarian approach and to adopt an « active » method, or broadcasts directed at a group under the informed leadership of a « monitor » which seek to improve the skill of the group leaders at the same time as conveying material to the members of the group.

2. From one point of view, the history of educational broadcasting is the history of the attempts to explore and achieve these adjustments, to identify the roles of the participants and to persuade and train them to assure them effectively. Theme I is a fresh study, on an international scale, of this relationship.

3. In discussion between the established educators in the classroom and the new educators in the studio much time has been expended in identifying and labelling the types of contribution that broadcasting can make to education, and such broad terms as « enrichment », « reinforcement » and « direct-teaching » — none of them wholly satisfactory — have emerged. It was the view of this Group that, in preference to prolonging the discussion by trying to make these terms more precise, it would

be more profitable and professional to concentrate on certain pre-determined tasks and the way in which they would have to be carried out, and to attempt to draw some general conclusions from these examples.

4. The topics selected for Theme 1 and the reasons for their selection are briefly summarized below.

I.11 *The training of teachers in service.*

This topic was selected as being central to the improvement in the quality of teaching. In an age which inthe content of the staple subjects of the curriculum, ideas about teaching and learning, and the range and supply of auxiliary teaching material are rapidly changing and expanding, it is unacceptable that improvements should follow the pace of retirement and recruitment; the entire teaching body must be re-trained constantly during its working life. This is a subject of universal importance.

I,12 *Vocational and educational teaching (including farming).*

This topic was chosen as central to the world problem of hunger, as of equal concern to rural and industrial communities and to those in transition from one state to the other. Its emphasis is upon engineering and technology and modern techniques of agriculture, and upon those who are engaged in this work.

I,13 *Social Education (civics, adaptation to modern life and urban life).*

This topic concerns urbanized and rural communities and those in a state of transition. Its emphasis is upon the way people live in these communities, and the ways in which young people can be helped to choose their occupations when they enter a world very different from that of their parents.

I,14 *Various aspects of literacy.*

This topic, adopting the U.N.E.S.C.O. interpretation of the term is clearly of prime importance, at all age levels, and within and outside conventional curricula.

I,15 ***The teaching of Mathematics to Children of School Age (Primary and secondary levels).***

This subject, one of many that are in rapid transition and are of key importance to technological advance, was selected because it was believed that it presents many instances of successful contributions, which can be studied and emulated.

I,16 ***The teaching of foreign languages to beginners (of all ages and school levels, whether university-educated or not).***

It will not be disputed that widespread knowledge of a second international language is one of the foundations of international understanding, and that broadcasting has an exceptional opportunity to be of help. To confine the discussion within manageable limits, this session is concerned only with beginners, whether school children or adults.

I,17 ***Higher education broadcasts to individuals working for examinations or professional qualifications.***

This topic, in the field of higher education, does not deal with broadcasts to students attending Universities or other similar institutions, but with the students outside them who do not benefit from University teaching. The present and prospective shortage of places in these institutions throughout the world makes this topic relevant and of pressing concern.

I,18 ***Special types of teaching for handicapped or over-gifted children.***

This topic is devoted to those children who, from some personal or environmental deficiency, are unable to take full advantage of the education provided for their more fortunate contemporaries. It examines the contribution that broadcasting can make to their education. It also examines the problems of unusually gifted children.

5. Each topic is allotted a session of 1 1/2 hour. The intention is that the author of each analytical paper should introduce it in about seven minutes, and that the authors of the contributions upon which the analyst has particularly drawn, should be invited to make contributions of not more than five minutes; and that, with the assent of the meeting, the chapter-headings of the analytical paper should be used as themes for general discussion.

Time would be allowed at the end to sum up conclusions that have been reached and, so far as possible, for free discussion upon questions that delegates may wish to raise.

6. The last session is reserved for assembling the conclusions of the previous sessions into a set of conclusions to be presented to the Conference.

Mrs Dina Dreyfus

Inspector in the Academy of Paris,
ministère de l'Éducation nationale, France

I,11 The training of teachers in service

The particular importance of the training and retraining of teachers in service is now generally accepted. At a time of complete transformation of contents and methods, we are also confronted with the problem which has been called « the bulge ». We must all therefore study the problems in a lucid manner and together, try to find the best solution.

Delegates will find below replies, not to all the questions asked, but only to those which we considered the most important. It is possible that others may also be studied during the sessions.

Items 2 and 6 of the questionnaire concerned the relationship between broadcasts and the curricula laid down by the educational authorities. All programmes for teachers are produced with the agreement of the educational authorities, *e. g.* the British Broadcasting Corporation programmes and those of the British Independent Television Authority are connected with the introduction of modern mathematics into the primary school curriculum. The Institut pédagogique national (France) produces programmes connected with changes in academic structures, with the general evolution of knowledge and with the introduction of new subjects into the curricula. In general, the programmes can be integrated into the existing educational system to improve the teaching methods and standard of knowledge in keeping with the rapid changes in the size and composition of the audience. They still retain their specific character, however, and remain distinct from cultural programmes and those intended to prepare candidates for vocational examinations.

Items 4, 5 and 11 concern the nature of the audience and the evaluation of results.

The audience, composed of primary and secondary school teachers, follows the programmes individually or in groups, but even in the case of individual reception, there are often discussions after the broadcasts. For example, the refresher course in Kenya, transmitted to resident students every day in December 1966, was also used as a basis for discussions and study in the teacher-training colleges.

With regard to evaluation, it will be noted that this is more a question of direct contact with the audience than of scientific surveys.

Items 7 and 8 concern methods and supporting material. The method, or rather the style of the programmes for teachers, is less and less authoritative and didactic (model lessons or lectures) and more and more directed towards mutual research and reflection (dialogue lessons and illustrative lessons). The method generally recommended to teachers is always related to the so-called direct method (in which the pupils participate in the explanation and discovery of the subject). The supporting material (leaflets and booklets, or stencilled texts) is usually distributed free to the users for whom the programmes are intended. Sometimes, tapes also are sent (*e. g.* Czechoslovakia, Kenya).

Finally, most of the difficulties (item 10) arise from inadequate organization of reception, in other words, from a lack of contact with the users. Here again, methods of establishing contact must be studied.

We hope that some of the most representative programmes may be seen, either in whole or in part, for a simple description (item 3) can in no way replace the picture itself :

e. g. — « Children and mathematics », B.B.C., United Kingdom.
— « Teachers' workshop », I.T.A., United Kingdom.

Donald Grattan
Head of Further Education, Television
B.B.C., United Kingdom

I,12 Vocational Education (Agriculture)

1. The papers available include very few examples of vocational education other than agriculture. There is an interesting paper about a new engineering training series in the United Kingdom, but it has been decided to concentrate on the area of agricultural education.

2. The information available on this subject includes papers on :

a. Agricultural Education by Television. A case study of the use of television in a regional experiment.	Television	FRANCE
b. Agricultural Education by Radio. To established farmers.	Radio-Television	ZAMBIA
c. Two papers making possible comparison of agricultural education achieved by Radio and Television. Study groups of special interest.	Television	POLAND
d. « Agricultural Classroom ». A case study of daily, early morning broadcasting to young farmers and students.	Television	JAPAN
e. A case study of a weekly television series of a strongly educational nature for stockmen and dairy farmers.	Television	UNITED KINGDOM
f. A survey of a wide range of agricultural programmes including magazine programmes.	Radio-Television	AUSTRALIA

There are, of course, many other interesting examples of agricultural education.

3. In agricultural broadcasting the border line between general broadcasting and educational broadcasting is not widely recognized. There are a great many examples of weekly agricultural magazines in radio, but rather fewer examples of series planned for rigorous educational purposes.

4. An analysis of the papers reveals :

a. *A case study of regional experiment in agricultural education (Television, Group Study, Regional Centre, Feedback).*

1966-67 has seen an important experiment in one of the regions of France. The system includes the following elements :

— a fortnightly morning television broadcast followed by a live discussion programme on the same day;

— a fortnightly meeting without broadcasting;

— study groups at rural centres.

The programmes are received at 200 rural centres equipped with television receivers. The content of the programmes is not only basic agriculture but should also lead to efficient management, marketing, etc.

The evidence suggests that this system involving the co-ordinated use of illustrated television programmes, open discussion using television, and group study is well adapted to meet the problem of the isolation of the agricultural and rural community from normal educational services.

b. *Case study of use of radio in a developing country.*

The rural population of Zambia is spread over a wide area. There are severe communication problems.

The increased availability of a reasonably priced transistor radio is an obvious answer to some of the problems. But there are no fewer than seven languages. So the development of an educational broadcasting system is associated with problems of many languages, training of broadcasters and local tutors, group listening, recording of programmes, etc.

c. *Radio and television used together for agricultural education.*

In Poland there are 3,300,000 individual farms in private occupation. Conventional efforts to popularize agricultural knowledge have proved insufficient. Both radio and television have been used progressively for agricultural education. There is an agricultural television course designed for farmers who already have some knowledge in the field. This course has led to organized group viewing followed by discussion. The evaluation of the effect of the programmes is important. It shows :

— the need to narrow the subject field to get good results;

- the need to acknowledge different levels of aptitude appropriate to different groups;
- the need for proper group reception facilities;
- an effective liaison and information system before the broadcasts;
- joint planning of radio and television;
- the need for a proper system of assessment.

d. *A case study of daily television broadcasts at a national level.*

In Japan N.H.K.'s educational television broadcasts « Agricultural Classroom » are shown six times a week. The broadcasts are at 7-7.30 a. m. The programmes are particularly aimed at young people who expect to engage in agriculture as their life's work. It has been ascertained that the programmes are watched by 300,000 people regularly and that there are 3,400 ' industrial-type ' groups watching the programmes.

Lubor Pok

Assistant Head of Children's and Youth Broadcasting, Ceskoslovenska Televize, Czechoslovakia

I,13 Social Education

1. The 23 reports from 15 countries constitute an extremely interesting review of the variety of approaches to our subject. In my opinion, this is chiefly because the term « educational », as defined by the E.B.U., can be so freely interpreted that a genuine synthesis is often impossible to achieve, in view of the variety of documents supplied by the different bodies.

2. We have received the following reports on social education :

a. The People's University, which transmits programmes on various scientific and technical subjects, as well as on history, law, etc.	Radio-Television	BELGIUM
b. Literacy and civic education.	Television	BRAZIL
c. Two reports describing two highly interesting series for children and teachers; the information on activity methods is specially valuable.	Television	CANADA
d. Report on three series for extending literacy and raising the cultural level.	Radio-Television	SPAIN
e. An extremely interesting series for stimulating school children's interest in current affairs : audience 1,000,000.	Television	UNITED-STATES
f. Description of an extensive programme of education for school children, covering almost every aspect of modern life.	Radio-Television	FINLAND

g.	Careers programmes : a series for parents.	Radio-Television	IRELAND
h.	Careers programmes : a series for school-leavers.	Radio	ISRAEL
i.	An interesting weekly programme, running throughout the year for women. Audiences form their own groups.	Radio-Television	JAPAN
j.	New forms of adult education. An interesting series because of the high level of the subject-matter : philosophy, science, art, etc.	Radio	POLAND
k.	4 reports on many series for children leaving school at the age of 15. In addition to careers programmes, there are many educational programmes (art, sociology, science, geography, religion, etc.). A series for adults on town life.	Radio-Television	UNITED KINGDOM B.B.C.
	Two interesting series for adults : on power in Great Britain and on middle-aged life.	Television	UNITED KINGDOM A.B.C.
l.	A really exceptional educational series for 7-year olds, which stimulates children, and teachers alike and provokes public discussion of its results.	Television	SWEDEN
m.	Three reports on social education carried out by the University of the Air, the education of parents civic education in schools.	Radio	CZECHOSLOVAKIA
n.	Supervised civic education.	Radio-Television	ZAMBIA

3. The fundamental question which arouses a great deal of interest is the relation between the educational programmes and those destined for teachers. The precise definition can have a great influence not only on the content of our subject but also on the teaching methods used, and can produce, in many participating bodies, better conditions for the internal organization or reorganization of responsibilities, and so lead to a profitable concentration of intellectual and economic resources.

4. With regard to the problems examined in the various reports, I find the following four types of activity, carried out by different organizations and completely independently, extremely interesting.

a. Social education among primary school pupils. Here we should certainly discuss the results and experience of Sweden, Canada and Finland, whose remarkable programmes may perhaps constitute a new form.

b. Programmes for school-leavers. The choice of a career, development of personal morality, etc.; in particular the numerous B.B.C. series and the regular programmes in Ireland and Israel.

c. In regard to the social education of adults, I consider that the most interesting and useful programmes are those designed for middle-aged people. To many people, reaching the age of 40 means beginning a new phase of life, which brings its own special problems. The A.B.C. programmes and the Japanese television service's series for women are both intended for that difficult age. I consider their experiments very important.

d. Last but not least is the really essential question for all of us — that of our native language, the correct use of which plays an essential part in personality development.

5. The last problem, surprisingly not mentioned in the reports, is the form of our programmes; on that finally depends the success or failure of our work, at the moment of transmission.

Mrs Maria Grazia Puglisi
Head of Teaching, Telescuola Centre
Radiotelevisione Italiana, Italy

I,14 Various aspects of literacy

The subject will be discussed on the basis of documentation furnished by Fundaçao do Amaral (Brazil), Radiotelevisione Española (Spain), Australian Broadcasting Commission (Australia) and Telescuola (R.A.I.-Italy).

In actual fact, this documentation is not sufficient to give an exhaustive picture of the use of radio and television media in the campaign against illiteracy.

For this reason, and although reports have not been received from all the nations in which programmes of this kind have been produced or at least used on an experimental level, reference will be made however briefly to all those about which some information is available, or the better known ones at least.

The starting point will be experiments carried out at Memphis, Tennessee (U.S.A.) and in Venezuela and, following chronological order, will continue with Italy's « *Non è mai troppo tardi* » (It's never too late). An explanation will be given of the special goals of the Italian programme which, above all, is intended to stimulate the interest of illiterate circles, almost too lazy to improve themselves and deaf to all attempts to use the traditional methods of teaching. It is these same goals which have determined the teaching method employed. This depends largely on the spectacular effects offered by television, and great confidence is placed in the help of teachers at points of reception.

In considering the next programme arranged by Fundaçao do Amaral of Brazil, entitled « *O futuro começa hoje* », an effort will be made to clarify what is needed to suit certain local requirements and the particular nature of the public, aspects that, in the case in point, have had an influence on the educational structure of the programme.

Mention will then be made of the Spanish television programme entitled « *Imagenes para saber* », in which the teaching method springs from a social need connected with the campaign against illiteracy and the necessity to undertake a campaign for civic education.

As to the report sent by the Australian Broadcasting Commission, this is really a form of instruction in English by radio for immigrants. In the circumstances, this programme does not directly concern the campaign against illiteracy, unless the English language is taught at an extremely elementary level. On this point, more detailed information could be requested from an Australian representative present at the Conference.

Although reports are lacking on this subject reference will be made to the programme " *Operazione alfabeto* " produced in Philadelphia (U.S.A.) to the programme " *Tele-emo* " from Guatemala, the very recent programme " *Yo puedo hacerlo* " produced in Mexico City and other experiments made in the African states, particularly that of the Ivory Coast.

Georges-Henri Clopeau
Co-ordinator of technology programmes,
Institut pédagogique national, France

I,15 Teaching mathematics to children of school age

1. The Commission received reports from 7 countries, concerning 20 series of programmes dealing with mathematics teaching to children of school age. 3 of the series consist of radio programmes, all the rest are television programmes. This is no doubt due (as has already been pointed out) to the extremely great importance of signs and symbols in mathematics. These signs and symbols can be better conveyed in visual form than by a paraphrase. In this way, we immediately come up against the problem of the specific nature of audio-visual media, which we shall have to examine later.

The great majority (16) of the series under consideration are broadcast at the rate of one new programme a week. The new programme is broadcast two or three times in the same week, to enable the teachers making use of it to plan their timetables more easily.

In one case, it was suggested to plan a slower broadcasting rate (one new broadcast per fortnight). The rate of one broadcast per month was chosen for very short radio programmes dealing with the organization of a monthly contest. More than one new broadcast a week was only suggested in one case.

The length of programmes most often chosen (12 times) was 20 minutes, but some of the programmes were as short as 10 or 15 minutes, while others lasted more than 20. None of them, however, was longer than half an hour, and this was certainly not due to mere chance.

2. The problem of whether the subjects in question formed part of a syllabus planned by educational Authorities was examined in several different ways.

In some cases, there was an attempt to determine whether the educational Authorities had helped to define the series.

Only five series were part of an official syllabus, to which they were closely linked. In the case of 8 others it was acknowledged that they took a syllabus into account. In every case, the series were planned by qualified people and outstanding mathematicians.

3. It is really difficult to separate a study of the third question " Brief description of the series " from that of the seventh question, " What kind of teaching method was chosen, and according to what criteria? "

The writers of every single report were anxious to make use of all audio-visual media, by bringing into the classroom material difficult to obtain, as well as situations from outside the academic world.

Another of the principal aims was to follow the progress of modern ideas on mathematics. This, moreover, is a question of world importance, which is not exclusively connected with radio and television, but is closely linked to the aims of those who are responsible for the future in every country.

Mathematics are on the move. Teachers often have to go back to their studies, and society urgently needs more and more qualified mathematicians. Radio and television have a decisive part to play in this struggle.

The principal subjects dealt with are *numerals* (using various bases), measurements and approximation, *ratios* and their graphic form, statistics and logic; in addition, geometry has given rise, on television, to new forms of presentation, using the resources of film.

Few details are given about the teaching methods chosen, and the contents of the reports suggest a number of queries :

— Is it preferable to have one and the same person presenting the entire series?

— Is it preferable for the programme to be presented by a teacher or an actor?

— Is it stimulating to show children in action?

— Is it possible to start a dialogue between actors, or with the audience?

— What connections with other subjects (history, geography, etc.) can be made use of?

— How should questions be put on television and radio?

— How should the programmes be connected? In this respect, the system of a monthly contest was chosen for two radio series. However, it is possible to link successive programmes in a different way, by assigning a special teaching function to each broadcast, *i. e.* one programme presenting an idea, another one illustrating it, and others again, featuring problems which are either acted, expounded or invented; the different types of programme can then be alternated.

4. Nature of audience. Two of the series on primary mathematics presented were meant for children of 7 to 8 years. The great majority of the series focused on children between 10 and 12 starting on secondary education.

The aim of all these series was to promote modern mathematics with the pupils and, often, but as a secondary aim, with the teachers also.

Five series were aimed at children between 13 and 15 and two at older ones.

Several rapporteurs gave figures showing the number of pupils or schools receiving the broadcasts. In practice, however, surveys in this respect are tricky with regard to the actual audience. The potential audience is very large, however, and often far exceeds the audience aimed at.

One series was even specially repeated outside school broadcasting hours for the benefit of adults interested in the programmes.

5. Generally, teachers of classes following the broadcasts were not specialists in mathematics. In all cases, the use of broadcasts in the classroom was optional. In a few instances only, they had been recommended by the official authorities.

6. The evident freedom in the way the broadcasts were used, combined, in certain countries, with the absence of a single official mathematics syllabus, means that the teacher is the one who judges the broadcast, either because he prepares it, or because he makes use of it.

It ensues that, compared to other forms of teaching, the relative educational importance of broadcasts varies considerably. With at least 12 series, however, a teacher's guide explaining the use that could be made of the broadcasts had been provided.

These conclusions lead one to think that one of the chief problems in the planning of a broadcast is to know what its functions will be. In any case, that function is « not to be completely adequate and sufficient in itself, provided the student is intelligent enough to understand it completely ». In other words, the broadcast cannot be defined solely in relation to its subject-matter, but must also be defined in relation to the pupil, and its function must be stated.

In countries having sufficiently qualified teachers, the broadcasts do no more than provide materials unavailable to the teacher (such as out-of-school information, animations, moving figures, etc.).

In countries where teachers are insufficiently qualified, the broadcasts may also take over part of the teacher's role, and may thus educate him at the same time. The Republic of Niger has presented a series conceived along these lines.

7. Which pedagogic methods were finally chosen? This question has already been referred to in regard to the following points :

— The broadcast often aims at simultaneous training of the teacher.

— The final choice of method raises a number of queries. It was always reached empirically, as a result of efforts to put the audio-visual material into effective use.

— The broadcast may sometimes be of interest to adult persons.

We should add that in certain countries, where the syllabus varies from one school to another, there is a tendency to rely on television to achieve a certain degree of uniformity in education.

8. What accompanying material has been supplied? With one single series (radio) there was no documentary support; this was a ten-minute broadcast featuring a monthly contest.

In all other cases, either a teacher's or a pupil's guide was provided; in five cases, both.

Moreover, it is necessary for a series to be provided with adequate material for all classes concerned.

The cost of the accompanying material is borne either by the school itself, or by the State.

9. Which other teaching aids are being used or seem necessary? On this point we have already mentioned the role teachers may assume in the effective use of broadcasts. Generally speaking (with one exception) details of this kind of additional support were not provided by producers.

10. Main problems and difficulties encountered. First of all, we should note that our Commission has dealt exclusively with teaching difficulties on the production and reception levels, but has not examined administrative or financial difficulties, which will be dealt with by a different commission.

In connection with the above-mentioned problems, real difficulties are often presented as facts, no doubt because no one imagines that there is a solution to them which lies within our province. This for instance is the case as regards the insufficiently qualified teachers using the broadcasts, or rather, teachers insufficiently qualified in mathematics. Although this lack is shown in over half the reports, it is only quoted-once, in reply to the tenth question.

Similarly, only two reports mention the difficulty of finding qualified producers with enough time to devote to production, as well as the difficulty of defining a precise teaching procedure, and one should not conclude from this, that such problems were only present in the case of two series.

Two difficulties have been most frequently noted.

a. In certain countries, there is no single official syllabus. Consequently, requirements vary considerably and it is difficult to design programmes to interest everybody.

Difficult it may be, but apparently not impossible and, all things considered, perhaps this difficulty constitutes a progressive factor : one of the rapporteurs speak of the need to conquer his public. It is therefore necessary to be general, very stimulating, in other words, very good mathematicians.

All the producers seem to wish for a national teaching method, clearly defined, and some hope that television will help to attain this result.

b. Some rapporteurs mention resistance to the use of television on the part of the teaching profession. This resistance may be divided into two categories.

The first based on principles : « Mathematics are essentially abstract and a concrete support can only alter their nature » or « The attitude of mind current among people watching television is not one we wish to cultivate among our pupils » or yet again « The teacher should be completely free to organize his lessons and the rate of progress of the class ».

The others are of a material order : « The times of transmitting are incompatible with the timetable » — « We haven't time to take full advantage of the programmes and programmes alone are of no use to the lesson as a whole » — « The programmes require too much work, they set too many exercises. »

11. To what extent has the impact of broadcasts been evaluated? About half the series presented were accompanied by numerical evaluations of the results. All the rapporteurs say they are satisfied with the educational results obtained by those who follow the programmes.

However, the difficulties mentioned under question 10 show that an enlargement of audiences is desirable. Few rapporteurs, on this particular point, think that the results were completely satisfactory.

Broadcasts often have side-effects, which have been singled out throughout reports and have been mentioned above.

The main results may be summarized here : an adult audience has been reached and a contribution has been made towards further training of teachers. Furthermore, a secondary benefit was apparently hoped for, *i. e.* the standardization of curricula throughout each country.

The method of evaluating results is based on :

— visits to classes receiving the broadcasts;

— personal contacts between producer and user;

— questionnaires filled out by teachers, either after the broadcast or at the end of term.

No comparative test evaluating the effectiveness of broadcasts has been performed, but this was undoubtedly due to the fact that, in mathematics, it is very difficult to appreciate achievement. This question certainly would need more study.

Conclusion :

In the final analysis, the study of these reports shows a great similarity between the preoccupations of the different rapporteurs, which is all the more astonishing if we consider the diversity of countries and legislations concerned.

The unifying power of mathematics is demonstrated yet once more. Descartes said that common sense was the most equally shared commodity in the world.

In particular, we notice that all the solutions to the problems raised (in connection with questions 1, 2, 3, 6, 8 and 10) repeat the same ideas :

1. The educational action to be taken must be completely analysed — and at a high level, by the national authorities.

2. Then, from this analysis, can be chosen certain fields of action where radio and television have a specific part to play. And even if, because of the inadequate qualifications of the teacher-users, radio and television have to take over a large proportion of the teaching, that proportion should be clearly stated. In 1967, it is no longer possible to be content with simple televised lessons.

Rolf Lundgren
Head of School Broadcasting.
Sveriges Radio, Sweden

I,16 Teaching a foreign language to beginners

1. The present synthesis is based on the study of 28 papers, some of which deal with adult educational programmes and some of which deal with school programmes.

2. It appears that it is becoming more and more common to start beginners' courses with an oral, textless approach, introducing the written word only when a small basic vocabulary and some highly frequent structures have been well established.

3. In most of the 28 papers examined the opinion is expressed that it is the aural-oral aspect of language teaching that should be stressed in radio and television teaching. Thus it seems to be the ambition of presenters and producers to give their audience first and foremost training in the spoken language, mainly in the form of dialogues. Practice in ear-training and pronunciation (sounds, rhythm and intonation) seems to be given first priority.

4. It is now generally considered that language is only part of our behaviour in a situation that comprises a number of other behaviouristic elements. The fact that this view strongly speaks for the teaching of languages in the form of radio and television programmes can be concluded from what is said in several papers.

5. Taking for granted that members of the Commission have read through what the working paper volumes contain for this session, attention is specially drawn to these papers.

a. There is a strong trend towards producing not only radio or television courses with accompanying material, but more and more comprehensive teaching systems. Advanced examples of this are *Parlons français* and *First year Russian* (B.B.C.). *Parlons français* is a multi-media system of language learning for elementary schools : 150 15-minute filmed lessons for pupils, 15 teacher preparation lessons on film, teacher guides, text-books for pupils, practice and drill records for pupils and teachers, testing materials. *First year Russian* is a 20 lesson radio course, completed by 10 short television programmes on the Russian alphabet, an accompanying booklet and a teaching kit, consisting of instructions to teachers on methods, notes for the teaching of each lesson, language laboratory drills on paper and tape, a set of cards illustrating vocabulary, notes for pupils.

b. Integrated use of television and radio (All India Radio — vol. 3). An experiment in Delhi using both radio and television in the teaching of English as a second language to beginners. By letting radio do part of the job, the production strain on the limited studio and other resources of television is reduced and the quality of the programmes can be improved. Compare the *First year Russian* course where both media are also used, but apparently for different reasons.

c. The Polish paper on *The teaching of foreign languages by radio* says that the use of dialogues « represents a Polish contribution to the methodology of teaching foreign languages since, so far, in no other country has it been applied on such a universal scale nor anywhere else have the techniques of its use been worked out in such detail ». There is also mention of a planned experiment « English while you sleep », and if this experiment is successful, says the report, it will lead to language teaching by hypnopedia on a mass scale.

d. The comparatively new language-teaching medium of radiovision is described in *French for beginners* (B.B.C.). The B.B.C. course is intended for 11-year-old beginners in secondary schools, and the Niger course is intended for the development of the use of French in backward areas and is therefore based on the use of a radio set and a paraffin-powered projector and taking into account the specific motivations and reactions of illiterate peasants.

e. English radio courses as a pre-requisite for making English a compulsory subject in the Swedish school system. This paper maintains that with the help of a teaching system centred round radio lessons primary school teachers who are not qualified to teach English can attain the same results in English as their colleagues who are qualified to teach English. The project started in 1945, and after 10 years' experimentation, English was made a compulsory subject in all Swedish schools in 1955.

6. The papers examined do not say as much about difficulties overcome as one

would wish in order to prevent organizations from falling into the same trap as others have already done.

a. The basic difficulty, pointed out in several papers, is the discrepancy between the desire to make attractive programmes and the narrow limits set by the target audience's knowledge of the language in question — especially during the first term, of course.

b. There also seems to be a fairly general experience that teacher-scriptwriters tend to press rather too much vocabulary and grammar into each lesson, and therefore courses have to be thinned out.

c. Not enough emphasis is laid on preliminary trials before new courses are put out on the air.

d. It is also pointed out to the producers of export courses that such courses tend to be compromises that do not really answer real needs anywhere, and that it would be advisable to make different courses for different language groups, *e. g.* a French course exclusively for the Slav group.

e. Quite a number of the papers complain that not enough has been done to measure the effects of the broadcast courses.

f. The attitude of the teachers can be a psychological problem sometimes. The teachers are afraid that radio and television will supplant them and do not consider broadcast lessons as assistance offered to them.

g. The B.B.C. Russian course on the radio is so specifically directed to listeners in organized classes that individual listeners outside these classes are given only a limited opportunity to learn Russian by radio.

How far can one go in this respect in open-circuit broadcasting?

Edward Stasheff
Professor of Television. University of Michigan, United States

I,17 Higher education broadcasts for isolated students working for degrees or equivalent qualifications

This short summary covers reports submitted by the following organizations, their cooperating educational institutions and the nature of the subjects taught by means of these broadcasts.

1. All India Radio : *University of the Air*, in co-operation with the Correspondence Course Directorate of Delhi University (radio).

2. Nippon Hoso Kyokai : *University Course Programme* in cooperation with certain universities which provide correspondence courses (radio-television).

3. Polskie Radio i Telewizja : *Higher Technical Studies at University level*, in cooperation with the Ministry of Higher Education and several universities (television).

4. U.S.A. — A variety of Projects and Courses :
    a. Chicago City Junior College : *Junior College of the Air*, in cooperation with television station W.T.T.W., Chicago.
    b. New York University : *Sunrise Semester*, in cooperation with the Columbia Broadcasting System.
    c. National Broadcasting Company : *Continental Classroom*, in cooperation with the Learning Resources Institute.
    d. Columbia Broadcasting System : *C.B.S. College of the Air*, in cooperation with the Learning Resources Institute (television).

5. O.R.T.F. — A variety of Projects and Courses :
   a. Faculty of Arts of Paris experiment in teaching by radio and correspondence, leading to a certificate in English studies (radio).
   b. The Evolution of Radio-Propaedeutics, in cooperation with the Universities of Paris, Lille, Bordeaux, Nancy and Strasbourg and nine other towns (radio).
   c. The National School of Arts and Crafts courses, leading to technical diplomas (television).

6. U.S.S.R. — A variety of Projects and Courses :
   Soviet Radio and Television Service, in co-operation with the Interministerial Council for Educational Television; higher technical studies at university level, for students enrolled in correspondence courses at various universities (television).

SIMILARITIES

All the projects involved in this report were concerned with providing formal courses beyond the level of secondary school for students who might not be able to enroll in colleges or universities for such reasons as financial ability, geographic distance or the need for full-time daily employment. While there were differences in the choice of subjects to be taught, all these operations completed the television lectures or lecture demonstrations with a wide variety of materials and activities : viewers' guides, standard or special textbooks, correspondence course arrangements, special visits to one of the cooperating institutions or centres, and the writing of final examinations, often under supervision. In each instance at least three of the accompanying activities were present, and in some cases *all* were to be found.

The programmes all had similar, almost identical motivations. They had been designed to meet the needs of an expanding population and of a society which found an ever increasing number of its citizens capable of pursuing higher education, desiring further schooling, but unable to pursue it in the existing structure of traditional intra-mural university teaching. In each case the society placed a high value upon higher education and turned to broadcasting as one way of meeting the needs of its citizens.

Another similarity may be found in the fact that all of these projects enlisted the help of established educational institutions of higher learning to prepare the courses to be broadcast and to serve as centres of enrollment, counselling, examination and accreditation.

DIFFERENCES

Of the six nations whose reports are summarized here, it will be noted that one (India) used radio; two (Japan and France) used both radio and television, while Poland, the United Kingdom and the United States of America all used television.

As might be expected of six different countries with different problems there was evidence of a considerable range of approaches to the preferred frequency and duration of transmissions, as well as in the total number of broadcasts which would constitute a « course ». The following tabulation may suggest the scope of these differences.

Country	Frequency	Length of Series	Programme Duration	Subjects Offered
India	Weekly	Academic year		English, Economics, Political Science.
Japan	2 per week	Academic year	20 mn radio 30 mn television	Radio : English, Political Science, Literature. Television : Biology, Mathematics, Law, History.
Poland	1 to 3 per week	1 or 2 terms	30 mn	Mathematics, Descriptive Geometry, Chemistry, Physics.
U.S.A.	2 to 5 per week	1 to 2 terms 30 to 160 programmes	30 to 50 mn	Entire range of first two years of college, also Humanities, Social Studies, Atomic Age, Physics, « New » Biology, « New » Mathematics, Modern Chemistry, Economics.
France	3 to 5 per week	Academic year	30 mn usually	English, Propaedeutics, Mathematics, Radio-electricity.
U.S.S.R.	1 per week	26 programmes	45 mn usually	Mathematics, Descriptive Geometry, Physics, Chemistry, Theoretical Mechanics, Strength of Materials, History of the Communist Party, Political Economics, German, English and French, University entrance Subjects.

While almost all of these projects provided study materials, in most cases materials were provided free or at cost, while in others students bought their own text-books and guides. Fees were non-existent or nominal, in most cases, but in others were charged by individual universities at the regular rate per « credit hour ». Examination situations ranged from correspondence techniques to the requirement that students come to a nearby centre, college or university to write examinations under supervision.

I,18 Special teaching methods

REPORT ON THE SESSION

In the course of their exposés, the speakers, Mr Shigenari Futagami of the N.H.K. and Mr Kenneth Fawdry of the B.B.C., explained what sort of help the televised picture can give to backward children.

The combination of pictures and words can help to improve the functioning of the mental processes of these children.

In Japan, there are 2,500,000 handicapped children. Some programmes are broadcast especially for backward children, others are intended for clearly handicapped children and try to explain concepts to them by using their own experience of practical life as a basis. Other programmes are intended for parents of maladusted children; in particular the programmes intended for the mothers of deaf children of preschool age were mentioned.

In GreatBritain, some programmes especially intended for primary-school children who read slowly were broadcast as an experiment, on the initiative of a producer. In view of the success they had, it was decided to continue with other programmes.

It is interesting to emphasize that in this field the success of the programme depends on painstaking preparation : the composition of the groups of pupils, a careful coordination between the broadcast itself, the accompanying document and the material which can be used in the course of exercises after the broadcast. Finally, in the conception of the programme itself, the emphasis is put on motivation. The pupils' attention is held by amusing stories.

Richmond Postgate
Chairman of Commission I

I,2 Programmes and production

INTRODUCTION TO THE THEME

1. In Theme 1 a number of important educational situations and the broadcasting contributions appropriate to them are studied. In Theme 2 some of the major production techniques used in educational broadcasting in relation to the specific educational broadcasting tasks are considered.

2. Before examining these enquiries in detail it is desirable to identify and agree upon the important characteristics of educational programmes and what we expect of them. These are put forward in the following propositions which will serve as a basis for discussion and, perhaps, for the adoption of these definitions.

a. Successful educational broadcasting is the product of collaboration between educators, presenters, producers and staff with technical and artistic skills. Occasionally these skills may be found in a single person; sometimes within a single organization; more often, in several. The right way of combining these skills differs according to the circumstances and has to be studied afresh by each organization.

b. Educational programmes must be planned well ahead of transmission and it is better that they should be prepared ahead also. The planning involves :

— a perfect harmony between the programmes and the educational intention,
— timetabling appropriate to class or home use,
— judicious decisions about the role and nature of the support literature and similar material.

c. Unless the broadcast forms a part of the educational system much effort and money may be wasted. But to ensure that listeners, viewers and their teachers, monitors or group leaders fully understand the purposes and plan of the programmes and texts a great deal of effort and expense is needed even when good relations between the various collaborators exist.

d. The entire production team must fully understand and accept the educational purposes of the programmes; otherwise the purposes of the programmes will not be achieved or achieved only in part.

e. The producers and directors of the programmes, writers and editors of the support material must be aware of and sensitive to their particular audience — its composition, its socio-educational situation and its capacities and limitations of assimilation.

f. The audience must participate actively, whether by attention and intellectual or imaginative reaction or in more obvious ways during or after the transmission. These ways may include :

— writing answers to questions asked during a broadcast;

— repeating the words and sentences of a language programme;

— participation in a correspondence course and answering service with a tutor;

— participation in group study or discussion after the broadcast;

— actually handling models or experiments during the course of the broadcast.

g. Means must be agreed on for ascertaining the effectiveness of the programmes and support material. To this end :

— it would be desirable to produce trial-programmes and to evaluate them before transmission;

— comment from users during the run of the series is extremely important and must be immediately taken into account;

— considered judgement at the end of a series based on all available evidence is also essential, not only to judge the success of the programmes in meeting the educational objective, but also to see whether the objective itself was realistically framed.

3. Among the many elements to be taken into account in making educational programmes the five following require special attention as each must be adapted to the particular type of audience.

a. The problems of « loading and pace ». This involves decisions about the actual number of ideas included in a programme (« loading ») and consideration of the actual pace at which these ideas must be conveyed to the public.

b. The nature of the learning process. The producers and directors associated with the programme need to be aware that there is a good deal known about the way people learn and that children and adults have different behaviour patterns. This knowledge is important in studying the planning of the sequences within the programme and in considering the question of audience involvement.

c. The vocabulary and language. A knowledge about the particular vocabulary and language of each defined educational audience is essential.

d. The type of audience-involvement appropriate to the educational situation. This needs special care and planning. It can be achieved by a variety of methods — sometimes with gaps in the radio and television programme, with answering sessions and sometimes in more subtle ways.

e. The type and composition of the visual components both in the programme of television or radio-vision and of the accompanying material. This leads to consideration of the very nature of teaching and raises the problem of repetition, irrelevant digressions, etc. This is important not only for television but also for radio-vision and for booklets.

4. The topics for Theme 2 have been chosen so that the most important aspects of the question may be examined in the light of recent international experience. Each session will consist of an introduction given by an international expert containing illustrations taken from a wide range of educational programmes.

5. The topics chosen and the reasons for their choice are briefly described below The problems of « loading and pace », of understanding the learning process, of appreciating the need for great care in pictorial design and lay-out were all clearly brought out in the first three main sessions devoted to Theme 1.

I,21 *The use of stills and word captions in television and radio-vision.*

I,22 *The role of special effects and animation.*

I,23 *The role and production of film material for educational programmes.*

The Commission will then examine the more sophisticated processes available to the educational broadcaster and will ask whether these processes can be used in special ways for educational broadcasting and whether there have been any recent and significant developments in this field. The subjects which will be considered are the following :

I,24 *The role of dramatization in a wide range of educational situations in television and radio.*

I,25 *Techniques of reporting on events and situations by radio and television.*

This means the examination of showing industrial processes, human relationships, current affairs, etc., and will involve the introduction of outside broadcasts into educational programmes.

Since it would be unwise to concentrate on examples which involve the use of lavish resources, the Commission's work (to be fully practical) may best be advanced by considering what can be achieved for educational purposes by the use of modest broadcasting resources taking for the session the subject of :

I,26 *What can be achieved in the educational field by the use of a small television studio?*

The purpose is to examine whether a small studio with modest resources can, nevertheless, be used by skillful people to produce programmes that fulfil the main educational criteria.

Educational criteria apply at least as much to material accompanying broadcasts as they do to the broadcasts themselves. This may consist of booklets, group discussion notes, radio tapes, weekly correspondence courses, etc. and it is important next to analyse recent developments in accompanying material. The Commission will, therefore, need to examine :

I,17 *The role of accompanying material to radio and television broadcasts.*

Finally, in Theme 2 it will be important to take note of interesting and important developments in teaching methods and in our understanding of learning processes. These developments are commanding more and more attention from educationalists everywhere (and here the word « education » is used to include practical training) and, therefore, it is essential to enquire whether any of these developments are applicable to the production of radio, radiovision and television programmes and, equally, to the accompanying material for the broadcasts, so the final session for Theme 2 will be :

I,28 *Recent scientific developments in educational broadcasting.*

(Programme analysis, methods of checking the effectiveness of a broadcast at production level.) This subject will be dealt with in the course of a joint session with Commission IV.

Geoffrey Hall
Assistant Head of School Broadcasting
Television, B.B.C., United Kingdom

I,21 The use of still pictures and word-captions in television and radiovision

1. *Introduction.*

All forms of broadcasting are characterized by conflict — between different aims, between the claims of the different technical factors, and most of all between the ideal and the financially possible. Success in broadcasting is thus, to a large extent, a factor of the success with which these conflicts are resolved — of the kind of compromises arrived at. Satisfactory compromises can be reached only if the advantages and disadvantages of any particular technique are taken into consideration, and related to aims, cost, the time available, etc.

In the following discussion of the still picture an attempt will be made to explore both the advantages and disadvantages of this technique in different situations.

2. *Physical considerations.*

There are four main ways in which the still picture may be used in the context of an educational broadcast.

a. The still picture may be used in the studio, in front of an electronic camera. This is the cheapest and most direct method, giving good quality reproduction, and the director retains flexibility in his use of the material. However, it occupies one of his studio cameras, and he is denied very subtle techniques.

b. The still can be made into a slide or other form of transparency which is scanned by a small, fixed electronic camera, often located away from the studio floor. This frees a studio camera, but the technique is slightly more costly in time and money, is inflexible and may give less good reproduction.

c. The still may be projected on to a screen, *e. g.* by a *slide projector* or *overhead* projector. In television both back and front projection are used, and the screen is ' shot ' by a studio camera. The picture is easily related to the presenter, but this technique often involves lighting problems and the picture may be of poor definition.

In radiovision, the slides or films strips may be broadcast, or they may be distributed to users who project them themselves, to the accompaniment of a radio broadcast or tape recording.

Besides the possibility of colour and a larger picture, radiovision can be brought under the control of the user, *e. g.* the teacher in his own classroom. However, as an isolated technique it has the disadvantages of any still picture plus the disadvantage that it cannot be enlivened by association with other material, as in a television broadcast.

d. Still pictures may be filmed by *bench camera.* This makes possible a very lively and subtle visual with considerable impact. It is time-consuming and costly — but less so than, for example, location filming or full-scale film animation.

In discussing the still picture it will be assumed that any of the above four methods may be used.

3. *Selection and design.*

The educational television producer is often irritated by much of the ' theorizing ' associated with his craft. He knows how often he finds himself in situations where he has little opportunity to apply these theories other than instinctively. However, the selection and design of still pictures is a relatively tranquil part of his work compared with studio direction or location filming and lends itself more readily to the application of some basic principles of communication.

4. *Perception.*

The picture itself, its transmission by electronic means, the size and *low definition* of the received picture and the distance of the viewer from the screen all affect the ability of the viewer to see what is being presented to him. Clarity is therefore a first essential.

a. In word captions the size and style of lettering and the contrast between lettering and background must be considered.

b. Simplicity is desirable. Small and intricate detail will not be seen and will confuse more important elements. The eye and brain cannot take in many new things at once. In photographs, particularly, there should be adequate, not violent contrast.

c. Even in a simple picture it may be necessary to direct the viewer's attention to particular elements. This can be done in the still picture by contrasts of tone, size, etc. Simple animation techniques on the still make it possible to circle, underline or arrow important things. A large still and two cameras make emphasis possible by cutting to close-ups. And, of course, a well-written commentary can direct attention first to one part of the picture and then to another.

d. Finally, the layout of the still is important. Each important *part* of a map or drawing should be seen as a separate ' frame ' of the picture. This is particularly important if distracting parts are to be excluded in close-ups.

5. *Understanding.*

Even if the contents of a still picture can be clearly *seen*, it does not necessarily follow that their meaning will be *understood* unless steps are taken to ensure this.

a. In word captions it is assumed that the letters and words themselves are understood. Can one always assume that the many symbols and conventions used in maps, diagrams and drawings will also be understood without further explanation?

b. Many diagrams, or even still photographs, can be very mysterious unless related to the previous experience of the viewer. Thus a sectional diagram of the skin needs relating to the skin as the viewer has previously observed it : a big close-up of the eye of an insect needs relating to the insect as a whole.

c. A complex diagram may be unavoidable in some situations. If so, it is better to build it up section by section by means of simple card animation techniques rather than present it all at once.

d. Commentary and visuals should be related as closely as possible to assist easy understanding.

6. *Some uses of still pictures.*

A. AS PRIMARY COMMUNICATIONS.

a. Lettered captions, *e. g.* new or technical words, questions, statements and summaries.

b. Explanatory maps and other diagrams. Mixing, superimposition and ' *reveals* ' make possible simple animation effects.

c. Drawings, *e. g.* unique historical drawings, cartoons, etc. Again simple animation effects can be achieved by studio mixing. Cutting between multiple stills can be used imaginatively to convey atmosphere and impression. Bench camera work on stills gives the most subtle results of all because it is possible to edit later on and to synchronize the sound track.

d. Photographs can be used in the same way as drawings and cartoons, the photographs may be unique in themselves, *e. g.* photographs of famous paintings in an art programme or multi-flash photographs in a physics programme. They may be of a more general nature or they may be specially shot, *e. g.* to recapitulate briefly what has been previously covered at length.

B. STILL PICTURES IN ASSOCIATION WITH OTHER STUDIO MATERIAL.

a. Photographs of small details, *e. g.* the filament of an electric light bulb may be cut into a studio demonstration where studio cameras could not otherwise provide big enough close-ups.

b. Large studio photo blow-ups can be used by the presenter to link related material from different origins, *e. g.* a film shot, a studio experiment, and a diagram.

C. STILL PICTURES IN ASSOCIATION WITH FILM.

a. A still blow-up of a film frame may be cut to as the film is running. This is a cheap way of freezing the action for closer observation.

b. Pointing to important details is difficult on film. This, too, can be achieved by the cut-in still.

c. Interior shots of large buildings, *e. g.* power stations are expensive to light — in both time and money. A still photograph, especially if associated with camera panning or zooming, may provide a cheap and satisfactory alternative. This will be an important technique in colour filming.

d. Slides or photo blow-ups of the first and last frame of film sequences provide an easy way of linking the presenter in the studio to the film sequences. This may be important, *e. g.* in programmes for young children, or where cutting straight from studio to film may be confusing.

e. Radiovision is an important new use of the still picture, whether transmitted or projected in the classroom.

7. *Advantages and disadvantages.*

The advantages of the still picture are clear :

a. It is usually a cheap visual to produce.

b. Its production is often less time-consuming than other visual material.

c. The design and use of these illustrations are readily controlled by the producer.

d. The very fact that it is *still* may make it easier for the viewer to see and understand its content.

e. In much the same way it may imprint itself more readily on the memory.

f. Many stills may have a unique value of their own.

g. When cut together, especially to a well-written commentary or to music, stills may produce an impression and an impact which is quite unique.

h. They can be easily made and distributed for radiovision use.

However, it has to be considered whether there are any very important disadvantages associated with still pictures :

a. Still pictures cannot show movement itself or continuous change — the best they can do is to give an impression of these things. However, movement and change are perhaps the most important elements in the world around us and *ideas* of movement and change are vital ingredients in education.

b. In some countries, audiences, both child and adult, are now sophisticated viewers of moving pictures. For some people their entertainment has led them to expect movement; might they reject the still as a cheap and dull second best?

c. The human organism (like any other living thing) is geared to appreciate and react to change. Is it possible that still pictures may lack appeal to this basic characteristic?

Edward Stasheff
Professor of Television, University of
Michigan, U.S.A.

I,22 The role and production of animation

A. TECHNIQUES AND VALUE OF ANIMATION

While a great many television stations tend to think of ' animation ' in terms of film, it must be kept in mind that the effect of animation may be obtained through the use of moving segments of cardboard, sometimes called ' studio ' or ' floor ' animation. The effect may also be achieved electronically through the use of the special effects amplifier. Animation achieved on the studio floor, especially through the use of black cardboard and the superimposition or revelation of white images is not only quicker and cheaper, but permits the studio teacher to maintain close control of the presentation.

Whether the effect of animation be achieved, however, by one or another of these methods is of less importance than the pedagogic reasons for using animation at all. Obviously, animation often provides clearer perception of a principle or a process than the observation of reality. It removes extraneous detail and focuses attention on essentials; thus it aids retention. Obviously, animation also adds an element of interest, especially for the younger child.

Still another advantage is the ability of animation to provide a *visual metaphor*, a term to be discussed during this session. The process of photo-synthesis, for example, may more easily be understood and remembered by an imaginative animation which builds up the concept that green leaves are food factories, or that a series of grievances between the people of a country and its rulers may build up a wall between them until all communication is cut off and a revolution results. Similarly, a biological cycle or the transfer of a disease through a parasite may be reduced to simple terms through diagrammatic treatment as a chain of events, each step in the process being shown as one link in the chain.

Animation, then, can be any number of things, each to be chosen with due regard for its cost in time and money, its educational value, and its appropriateness to the particular subject for which it is intended.

B. FILM ANIMATION

It seems desirable to define my purpose from the very outset of the programme. Strictly speaking, animation is a film technique whereby an impression of movement can be given by drawings or objects shown in single-frame projection. Whereas the 24-frame per second film records movement, film animation entirely creates these movements (the commentary can be made on a living sequence).

There exists, however, a certain osmosis between various techniques for « visualizing » certain subjects, of which animation films are but one example. Thus certain « bridges of expression » are built between the cinema, the use of television and its effects and the animation film.

Hence, in order to broaden the scope of my intention, it seems possible :

1. to propose a classification of extracts providing a basis of comparison between various techniques;

2. to suggest that these techniques be examined in terms of certain aims of the class.

1. *Proposed classification.*

a. Techniques applicable to one-dimensional subjects : motion-picture cartoons, drawings directly on film, etc.

b. Techniques applicable to two-dimensional subjects : elements cut out and contents, etc.

c. Techniques applicable to three-dimensional subjects : objects, puppets, etc.

2. *Proposed examination in relation to aims of the class.*

a. Documentary or narrative aim.

b. Explanatory aim.

c. Motivating or aesthetic aim.

The purpose of the pre-selection carried out by means of selected sequences by the International Committee was to illustrate the various techniques and possible uses of these techniques. They have been reclassified under the three headings given above (in 1).

A. ONE-DIMENSIONAL SUBJECTS.

1. The outline of a character appears (single frame projection). Example : sequence from « Les moutons de Panurge ».

2. Formation of water molecules. Conventional animation by means of « cellulos ». Explanation based on dynamic value of frame.

3. A sequence illustrating a rapid animation technique. « The Animographer » (Refloating a ship).

4. Direct animation. Sketching device; the hand remains invisible (*e. g.* overloading a diapositive).

B. TWO-DIMENSIONAL SUBJECTS.

1. *Cut-out elements :* Use of the caption stand. Excerpts from a mathematics lesson; illustrating the use of animation in mastering mathematical relationships (demonstration).

2. *Animation film :* Cut-out characters moving against a fixed background. Excerpts of « The Buried City ». Value of historical reconstruction.

3. *Direct animation :* animation cards. Working of a pump.

4. *Animation by electronic inlaying*. Motivating expression. Language programmes.

C. THREE-DIMENSIONAL SUBJECTS.

1. *Animating models :* Editing shots after continuity recording. Excerpt from the « Map » programme. Explanatory role in geography.

2. *Composite animation :* a puppet made of objects.

Use of B.T., direct shooting, sound effects. Excerpts from an artistic initiation programme « The Hands ».

Jean Valérien
Senior Lecturer at the Centre audio-visuel
de l'École normale supérieure de Saint-Cloud, France

I,23 Role and production of a film

A programme that takes place on a television set generally follows the rules of classical theatre, which means that the programme must respect the unities of place, action and time. To go against those rules with purely « television » technical means requires an infrastructure, an equipment and staff not usually available to educational television. The remaining possibility then is to use film.

Where the use of film is not justified it should be immediately eliminated. Indeed very often the producer of a programme has a specific subject he wishes to illustrate. In these conditions the picture is not of prime importance, for it is only needed to complement the dialogue. The use of film, is, then, very frequent : it is the easiest solution and whether such film sequences are used or not has no particular importance.

However, the use of filmed sequences is quite different when the purpose is to give a new dimension to the programme. The picture is then of prime importance, the dialogue secondary. Most of the time, the use of film is necessary. This is particularly true in scientific programmes from which most of our examples are taken.

The new dimension we are seeking may have different aims : motivation, dramatization, precise analysis, etc. This may be obtained :

— either by a change of place : the film takes the pupil from the studio where the teacher is speaking to the places described;

— or through a great number of actions : for example, an attempt will be made to show all the various activities that take place in a harbour in order to make the pupil grasp the idea of a harbour.

— or by modifying habits of perception : the use of film is essential when speeded-up or slow-motion effects are required.

— or by introducing into the programme a historic document which it is impossible to reconstitute. Such a document very often has great dramatic value;

— or by using film techniques of picture-analysis (*e. g.* superimposition and stopping on a frame) which are more precise than those used in television;

— or by using « surprise » documents which are difficult to reproduce in a studio (*e. g.* « the spectacular meal of an animal »).

These examples show without any doubt the invaluable contribution of film to programme-production. In general, a programme may be given another dimension by the use of film. For scientific programmes in particular, the whole programme is often based on filmed sequences.

Gerd Kadelbach
Head of Culture and Education Department,
Hessischer Rundfunk, West Germany

Claude Laurent
Head of the French by Television Service,
O.R.T.F., France

I,24 The use of dramatization in radio and television

The purpose of dramatizing a school subject with the help of the means peculiar to radio and television is to transpose into dramatic form in accordance with the principles of these audio-visual media the abstract content of the body of knowledge in some branch of science. The acting must be adapted to the imaginative capacity of pupils and must also allow them to recognise the various relationships dialectically by their own thought processes. The chief aim is to make the pupils aware of the systematics of the subject through this dialectical digression and after transformation of their initial involvement with the material presented. It must not be forgotten that help from the teacher is indispensable. It is the teacher who sparks off, controls and complements this process. In this context radio or television is but one means among a whole range of possibilities.

After a preliminary selection made when entries were submitted to the Organizing General Secretariat, the following extracts were chosen to illustrate this paper :

I. RADIO

a. « Trip round the human body », biology programme.	SWITZERLAND
b. Geography programme.	KENYA
c. « Nuong, daughter of King Hung », history programme.	VIETNAM
d. « Breathe in, breathe out », biology and physics programme.	POLAND
e. « Flies, our enemy », hygiene programme.	AUSTRALIA

II. TELEVISION

a. Chemistry programme.	POLAND
b. « The hidden city », English language programme for foreigners.	UNITED KINGDOM (C.E.T.O.)
c. « Nicolas at Orly », French language programme for foreigners.	FRANCE
d. « The Circus », German language programme.	WEST GERMANY

Donald Grattan
Head of Further Education Television,
B.B.C., United Kingdom

I,26 Techniques of reporting on events and situations by radio and television for educational purposes

1. *Introduction.*

In Theme 2 we are charged to examine the use of some of the major production techniques in relation to particular educational tasks and audiences.

The range of this session is taken to include a consideration of how radio and television (and film) are used to report upon such topics as : « A visit to a factory », « The work at an archaeological site », « The bath of a baby », « The first day of a young person at work », « The teacher and child relationship », « The fight for survival-whether in conflict or against the elements of nature », etc.

2. *Educational Responsibility and Judgement.*

The methods of reporting are the tape recorder and microphone used on location, the interview in the studio or on location, the film camera, the outside broadcast (remote) television unit.

Events do not happen at a time or at a pace to suit the actual structure of an educational broadcast. Therefore the educational producer (or director) is involved in making judgements and in editing or tailoring the recorded or filmed material so that particular points are made. The judgements are not made on the « newsworthiness » of the events but on whether the material is appropriate and useful to a particular audience.

Therefore the handling and choosing of reported material requires special care and responsibility since the audience is entitled to believe that the material is a fair record of the event or situation.

3. *Alterations in Educational Criteria.*

In the introduction to Theme 2, section 3 some of the criteria that need to be considered for most educational material were mentioned.

Do these criteria apply when reporting events and situations for educational purposes?

a. The control of « pace and loading » requires special care to see that an incorrect expression is not given. But editing does allow the condensation of events normally lasting hours, into a few minutes.

b. In reporting, account needs to be taken of learning processes, but reporting is often designed not to teach information in an open fashion but to create an attitude or an awareness (or to create a climate of opinion). Therefore, there is a special responsibility to be aware of this.

c. The vocabulary and language level is often determined by the events being reported. But it is important to be aware of sensitivities that may arise that it may be necessary to see that the audience is made well aware of the likely content of the programme.

d. Adverse involvement. Skilful editing can produce a very strong sense of audience involvement. This again adds to the need for awareness of responsibility.

e. The very fact that all reporting involves editing means that irrelevant or redundant information is excluded. This is the special importance of skillful editing, especially for educational purposes.

4. *Radio.*

The following illustrations will be used for analysis :

a. The human heart	original French
b. Digging a well	original French
c. The battle for Prague	original Czechoslovakian
His native language	
d. How a child learns	original Japanese
e. The Bath of a Baby	original British

5. ***Television.***

The following illustrations will be used for analysis :

a. Improvised Drama	United Kingdom
b. Geneva — International Village	Switzerland
c. Hamisi — a boy in Tanyaria	Sweden
d. The Magdalenes	France
e. Hunger in the world	France

I,26 What can be achieved with a small studio?

SUMMARY REPORT OF THE SESSION

The object of this session was to show the possibilities existing for the production of television programmes with limited technical means.

It was centred on two visual presentations, the first one being a film produced by M. Guy Breton (O.C.O.R.A. — France) — who also provided the commentary — and the second one a series of slides which illustrated a talk by Mr. Rudy Bretz (National Educational Sciences Corporation, U.S.A.).

— The film was composed of significant sequences from television programmes presented to the Conference, for which only one or two cameras had been used, and which made use of stills.

— During his talk, Mr. Rudy Bretz presented slides showing different kinds of small equipment which are used in American schools and universities for the preparation of educational programmes. He explained the various possibilities of this new equipment which ranges from small studios of standard size to equipment controlled by the presenter, requiring but a limited number of technicians.

In the general discussion that followed these two presentations speakers insisted on the theoretical rather than on the practical aspects that had been brought out. Thus the question was raised whether the people responsible for educational television should not endeavour to acquire important technical means, such as those used in television entertainment. Mr. Thomas Singleton (C.E.T.O., United Kingdom), who took this stand, stressed the importance of the preparatory work preceding production as this would prevent technical problems during production itself.

Mr. Justin Keating (R.T.E. — Ireland), on the other hand, pointed out that, in most cases, the problem was less a question of choosing between different technical means than of making the best use of available means, which are, more often than not, limited. The Chairman, recalling the subject of the session as it had been originally defined, endorsed this point of view.

F. N. Lloyd Williams
Head of School Broadcasting (Sound)
B.B.C., United Kingdom

I,27 The role of accompanying material in support of broadcasts

1. *Recent tendencies.*

During the last few years there have been two tendencies :

1. for support material to be more closely integrated with the broadcast;

2. for the planner/editor to direct his attention not only upon the period of the broadcast with a few broad suggestions for what might happen before and afterwards, but upon a very much longer period of an hour or more, an entire educational operation, and to take responsibility for the planning of the whole of this.

2. *Before and during the broadcast.*

1. Before and during the broadcast the role of support material for the teacher is to provide :

a. a statement of the philosophy and aim of the series, particularly when the approach to the subject or its treatment is relatively new;

b. a short but firm statement of the aim of each separate broadcast;

c. a description of the contents of each broadcast, including a note of any point, for example, some sensitive matter in religion, politics or sex, on which the teacher might particularly want advance warning, and indicating the general structure of the broadcast so that if he tape-records it he can use only part of it at a time if he wishes;

d. a statement of any concrete practical matters the teacher should arrange for beforehand, *e. g.* the availability of objects for experiments or demonstrations during the broadcast, and of maps, pictures, drawings, etc.;

e. a statement of any desirable preparation of the class in the form of discussion, reading, experiment, etc.

f. a statement of what action will be required of the teacher during the broadcast, including an indication of any difficulties likely to be met by the class during the broadcast which may require the help of the teacher, *e. g.* particular passages in a song;

g. pictures indicating the quality of response to be expected from a class, *e. g.* in movement;

h. a note of proper names, unfamiliar vocabulary, technical terms, etc.;

i. answers to questions posed in the broadcast or in the pupils' booklet;

j. additional comment which will help the teacher himself to understand more fully the subject of the broadcast, *e. g.* a poem.

2. Before and during the broadcast, support material for the pupil is not normally required for television, but for radio its role is to provide :

a. much of the material under 2.1 above if no teacher is present;

b. visual material as a basis for the imagination, or for comment by the broadcaster, *e. g.* in art, geography, science, movement, languages. This can be a picture in a book or on a wall, or in some cases puppets, cut-outs, flannelgraphs, or everyday objects. There is a danger that a picture will restrict and trivialize the imaginative experience arising from a work of literature, but with right selection it can usefully affect the tone of the experience and can extend and deepen the experience;

c. textual material which will help many pupils to fix the attention upon, and to hear and understand more fully, broadcasts of their native literature, especially poetry, and of foreign language material. The provision of texts extends the range of difficulty of the material which can be presented to pupils;

d. enable songs to be taught and, further, songs to be taught in parts and accompaniments to the songs to be played on pitched and unpitched instruments. Again the textual material extends the range and complexity of what can be taught;

e. enable mathematics, reading (for adults), etc. to be taught by radio.

3. *After the broadcast.*

1. After the broadcast the role of support material for the teacher is :

a. to indicate some possible starting points for discussion and other activity;

b. to lay down a more defined and extensive programme of activity;

c. to provide a course book guiding the teacher in the whole of his work on the subject;

d. to provide material which it may be undesirable to broadcast on the open air, but can properly and usefully be introduced into the classroom if the teacher thinks fit;

e. to provide additional background material.

2. After the broadcast the role of support material for the pupil is to provide :

a. visual material as a basis for recapitulation, discussion and activity, using still pictures or 8 mm film-loops. This may be additional material — pictures in the pupils' booklet, or slides or film-loops — not already dealt with during the broadcast;

b. texts for further study, including texts to read, which is the culminating activity to which, for example, a broadcast for backward readers has led up;

c. a course book as a basis for most of the later classwork in that subject;

d. visual and textual material which can be absorbed into pupils' scrapbooks or taken home as their private possessions, so that seminar materials of a higher quality than normal enter the pupils' homes;

e. discs or tapes for pronunciation practice in language courses or singing practice in music ; further development of material already broadcast, in order to take, for example, the teaching of a song to a higher level of sophistication; use in teaching machines;

f. closely programmed material, which may be largely self-correcting, for use particularly in subject areas where teachers are not fully qualified, or in circumstances where no teachers are available;

g. activity material in the form of cards and other forms of cut-out material for use as educative games; kits of simple apparatus for experiments especially in science;

h. checking of progress by means of question papers distributed periodically by the broadcasting organization;

i. further full development by means of correspondence courses.

4. *Effectiveness.*

Support material, however ingeniously prepared, is not effective if :

1. it does not reach the educational institution in time;
2. it reaches the institution but does not reach the relevant teacher;
3. it reaches the teacher but is not read or properly studied by him.

5. *Relationship with the teacher and pupil.*

Support material promotes a fertile relationship with teacher and pupil only if :

1. it reaches him as far in advance of the broadcast as he requires; this may mean that the material for a whole term has to reach him a month or more before the beginning of the term, or it may mean that material should reach him fortnightly or monthly :
2. it is wholly reliable, especially in foretelling exactly what will be in the broadcast;
3. its lay-out is such that he can see immediately and clearly what he wants to know;

4. its tone is that of responsible professional speaking to his equal;

5. if while giving firm guidance it still by its tone makes teacher and pupil feel free, and while giving full information still allows the broadcast to contain an element of surprise;

6. it provides for two-way exchange of opinion and experience between broadcaster and teacher.

6. *In general.*

The development and elaboration of support material has :

1. greatly increased the amount and complexity of the planner/editor's work but has been accompanied by a clarification of his aims and an improved understanding of the media at his disposal;

2. greatly increased the power and range of educational broadcasting and played an essential part in its development into a sophisticated instrument which can, if required, use both television and radio, live or recorded, together with support material of several different kinds in a single comprehensive educational operation — team teaching on a grand scale — each contributing in its own particular way.

I,28 Recent scientific developments in educational production : programmed analysis

As this item was the subject of a joint session with Commission IV, readers should consult in this chapter, the papers by Mr. A. A. Lumsdaine and Mr. G. L. Groppe published in the reports of Commission IV.

I,3 Professional descriptions of the various types of specialists

As the « animateurs » and experts who were in charge of the debates on this theme wrote accounts included in the Final Report of Commission I, readers should consult these texts which are published in Chapter 4.

List of working papers submitted to Commission I

I,1 Teaching Situations and Methods

Title of the Communication	Author	Origin
N.H.K. School television programmes — Science		N.H.K. — Japan
Report for Commission I		W.N.Y.E., High School of the Air — United States
Teaching singing	Mrs H. Parkai	Magyar radio es televizio — Hungary
The principal characteristics of Hungarian school broadcasting with special reference to the direct method	Mrs E. Havril	Magyar radio es televizio — Hungary
The situation of educational radio in the Congo Brazza	G. Bikouta Menga	Radiodiffusion-Télévision congolaise — Congo Brazza
Data on the subject of the questionnaire dealing with the nine series of school programmes televised in the province of Nova Scotia		C.B.C. — Canada
Science teaching		C.B.C. — Canada
Replies from Nova Scotia to the questionnaire		C.B.C. — Canada
The study and presentation of literary texts by radio	M^{me} S. Darantière	I.P.N. — France

Analysis of typical programmes		A.B.C. — Australia
Description of a programme		A.B.C. — Australia
School television for children aged 7 to 9	M^{me} J. Sultan	I.P.N. — France
School television and radio for nursery schools	M^{me} S. Herbinière-Lebert M^{me} R. Sarazanas	I.P.N. — France
Does television cater for the interests of young children?	M^{me} R. Sarazanas	I.P.N. — France
Graphics		Télévision scolaire du Niger-Niger
Pre-academic learning		Télévision scolaire du Niger-Niger
School programmes by radio		Polskie radio i telewizja — Poland
Analysis of typical cases of the main forms of radio and television programmes		Ministry of Education — Zambia

I,11 The training of teachers in service

Teachers' workshop	C. F. Jones	I.T.A. (Westward Television Ltd) — United Kingdom
Films for the classroom	C. F. Jones	I.T.A. (Westward Television Ltd) — United Kingdom
Information for teachers		N.H.K. — Japan
Training of teachers currently exercising their profession	D. Grattan	B.B.C. — United Kingdom
A new approach to teaching biology	D. Grattan	B.B.C. — United Kingdom
Training of teachers currently exercising their profession		Ceskoslovensky Rozhlas — Czechoslovakia
Teachers' training programmes	N. Kumar	A.I.R. — India
Training of teachers currently exercising their profession		Y.L.E. — Finland
Programmes for headmasters of primary schools		Ministry of Education — Kenya
Account of an experiment to help the re-training of physics teachers	M^{lle} C. Terlon	I.P.N. — France
An example of the use of television (open circuit) in view of the introduction and support of a new subject : « technology »	G. H. Clopeau	I.P.N. — France

Broadcasts designed for the guidance of teachers in transition and practical studies classes	G. Perriot	I.P.N. — France
Information for teachers in primary schools and transition classes	M^{lle} A. Bon	I.P.N. — France

I,12 Vocational Education (including farming)

Careers guidance		Kol Israel/Israel Broadcasting Authority — Israel
Agricultural classroom		N.H.K. — Japan
Agricultural education in Polish television		Polskie radio i telewizja — Poland
Dairy farming today	D. Grattan	B.B.C. — United Kingdom
Agricultural information as an educative medium in Zambia	R. Rodway	Ministry of Education — Zambia
Rural tele-promotion	J. Dumaurier	Délégation générale à la promotion sociale — France
Adult education		Y.L.E. — Finland
Agricultural education on the Polish radio		Polskie radio i telewizja — Poland
An original contribution by television to social advancement	M. Garnier	I.P.N. — France
Co-ordination between television broadcasts for adults, accompanying material and oral teaching	M. Cercellet	I.P.N. — France
Note on the televised vocational courses of the O.R.T.F.	M. Kevorkian	O.R.T.F. — France
Engineering : craft and science	D. Grattan	B.B.C. — United Kingdom

I,13 Social education (civics, adaptation to modern life, urban life)

Women's class		N.H.K. — Japan
Social education : « Living in towns »	D. Grattan	B.B.C. — United Kingdom
Adult education : history		R.T.E. — Ireland
Adult education : developmental psychology		R.T.E. — Ireland

Social education (Ethics for grade 1)	Mrs. M. Carlson Regolo	Sveriges Radio — Sweden
Social education (School-leavers : television)	K. Fawdry	B.B.C. — United Kingdom
Social education : radio programmes for school-leavers	F. N. Lloyd Williams	B.B.C. — United Kingdom
Social education		Ceskoslovensky Rozhlas — Czechoslovakia
Social education (Civics, based on historical documents)		Ceskoslovensky Rozhlas — Czechoslovakia
Education of parents		Ceskoslovensky Rozhlas — Czechoslovakia
Reply to the questionnaire of theme 1 (sanitary education broadcasts : a fighting campaign against malaria)		O.C.O.R.A. — France
Social education		Y.L.E. — Finland
« The Middle Years »	I. Allen	I.T.A. — United Kingdom
« Power in Great Britain »	I. Allen	I.T.A. — United Kingdom
Questionnaire		Canada
Information on Polish radio programmes on social education		Polskie radio i telewizja — Poland
Communication on the pilot project of Dakar	I. Ba	U.N.E.S.C.O. — Senegal
Reply to the questionnaire		Ministry of Education — Thailand

I,14 Various aspects of literacy work

Analysis of a typical programme		A.B.C. — Australia

I,15 Teaching mathematics to children of school age

Teaching of mathematics		A.B.C. — Australia
The teaching of mathematics to secondary school pupils	G. Hall	B.B.C. — United Kingdom
Primary mathematics	R. Heron	I.T.A. — United Kingdom
The teaching of mathematics to fourth-year pupils		Ceskoslovensky Rozhlas — Czechoslovakia

The teaching of mathematics to fifth-year pupils		Ceskoslovensky Rozhlas — Czechoslovakia
Mathematics — primary/secondary	F. N. Lloyd Williams	B.B.C. — United Kingdom
The teaching of mathematics by television		Süddeutscher Rundfunk — West Germany
The teaching of mathematics via television in Nova Scotia		C.B.C. — Canada
The teaching of mathematics to children of school age		C.B.C. — Canada
Mathematics on television : primary and secondary levels	M^{lle} J. Bolon	I.P.N. — France
Arithmetic in the televised introductory courses		Télévision scolaire du Niger — Niger

I,16 Teaching beginners a second language

Analysis of a typical programme		A.B.C. — Australia
Foreign language lessons as a part of social education programmes		N.H.K. — Japan
Foreign language courses by Polish television		Polskie radio i telewizja — Poland
Teaching beginners a second language : « Bonjour Françoise »	D. Grattan	B.B.C. — United Kingdom
Second language (beginners) : first year Russian	C. Thorne	B.B.C. — United Kingdom
Second language (beginners) : " English by television "	C. Dilke	B.B.C. — United Kingdom
History of the programme " Parlons français "		D.C. Heath & Company — United States
" Labhair Gaeilge Linn " Speak Irish to us!		R.T.E. — Ireland
English radio courses as a prerequisite for making English a compulsory subject in the Swedish school system	R. Lundgren	Sveriges Radio — Sweden
School broadcasting. Teaching of Russian for the 4th and 5th years of elementary schools, for children aged nine		Ceskoslovensky Rozhlas — Czechoslovakia
The Spanish course		Ceskoslovensky Rozhlas — Czechoslovakia
The colloquial Russian course		Ceskoslovensky Rozhlas — Czechoslovakia

French for beginners	F. N. Lloyd Williams	B.B.C. — United Kingdom
Teaching beginners a second language (questionnaire)		Y.L.E. — Finland
Teaching beginners a second language (Swedish on television)		Y.L.E. — Finland
Teaching beginners a foreign language (questionnaire)		Y.L.E. — Finland
Teaching beginners a second language (English on television)		Y.L.E. — Finland
" English for you "		Süddeutscher Rundfunk — West Germany
" Russian for you " and " Tele-Russian		Süddeutscher Rundfunk — West Germany
Radio language courses		B.R.T. — Belgium
Campaign for teaching French by radio. Radio Buea (Western Cameroons); The teaching of French in Niger by radiovision		A.U.D.E.C.A.M. — France
The teaching of foreign languages by radio		Polskie radio i telewizja — Poland
Sound complements to broadcast and televised second language courses for beginners	J. Martin	I.P.N. — France
Replies given by the Strasbourg production team to the questionnaire of Commission I	M. Eckert M. Weick	I.P.N. — France
School Broadcasting — English	M. Nicolaï	I.P.N. — France
Teaching beginners a second language		Ministry of Education — Kenya
Language in the television initiation course		Télévision scolaire du Niger — Niger
Teaching French to foreign adults by television	Mme Moget	O.R.T.F. — France
Pupils' participation in a televised language lesson		Nova Scotia School Television — Canada

I,17 Higher Education broadcasts for isolated students, for the obtaining of degrees or equivalent qualifications

University correspondence course in Japan and its broadcast programmes		N.H.K. — Japan
Programmes for senior secondary school correspondence course		N.H.K. — Japan

Television in higher technical adult education		Polskie radio i telewizja — Poland
Televised courses : " Sunrise semester "		New York University — United States
Higher education broadcasts for isolated students working for degrees or the equivalent		I.T.A. — United Kingdom
Experiments in teaching by radio and correspondence in higher education. Certificat d'Études Pratiques (one of four certificates going towards a degree in English) at the Faculté des Lettres de l'Université de Paris	H. Appia	Faculté des Lettres de Paris — France
Report of the French Delegation		France
The evolution of radio courses for first-year students (summary of M. Lefranc's communication)	R. Lefranc	Faculté des Lettres de Paris (Centre audio-visuel de St-Cloud) — France
Memorandum on the higher education courses of the Conservatoire national des arts et métiers, broadcast on the second channel of the O.R.T.F.	M. Lesne	Conservatoire national des arts et métiers — France
Post-graduate medical courses on television	R. Léger M. Bonamour	Ministère de l'Education nationale — France
Seminar on direct teaching by television (Rome, Nov. 28th-Dec. 2nd, 1966) the « Telekolleg »	A. Schardt	Bayerischer Rundfunk — West Germany

I,18 Special types of teaching (handicapped or over-gifted pupils)

School for the deaf		N.H.K. — Japan
Special types of teaching. Assistance by television to slow readers in primary schools	K. Fawdry	B.B.C. — United Kingdom

I,2 Programmes and production

The history of a programme		Télévision scolaire du Niger — Niger
School radio and television and audio-visual aids. Relation and co-ordination	M. Cormary	I.P.N. — France
Still pictures and broadcasting in the service of adult and school teaching		Institut français de Radio-vision — France
Comparative study of production techniques for films or film sequences for use in television programmes		B.E.T.E.A. — France

Reportage in school broadcasting — a Swedish example	Mrs B. Wallner	Sveriges Radio — Sweden
The self-directed system — a simplified production method for instructional television	R. Bretz	National Educational Sciences Corporation — United States
Utilization of a small television studio	T. Singleton	C.E.T.O. — United Kingdom
Characteristics of closed-circuit television equipment	M. Rougeoreille M. Rubenach	B.E.T.E.A. — France
The role of accompanying material	M. Stenbeck	Sveriges Radio — Sweden
The role of accompanying material	S. S. Allebeck	Sveriges Radio — Sweden
The role of accompanying material in support of broadcasts	F. N. Lloyd Williams	B.B.C. — United Kingdom
The role of accompanying material	Mme Le Cam M. Denel M. Ruault	I.P.N. — France
Problems raised by the production of programmed television broadcasts. A special case : technology	R. Laborderie	I.P.N. — France

I,3 Professional characteristics of specialized personnel

I,31 Principal professional characteristics

Back to school		C.U.C.E.S. — France
Training for educational television	T. Singleton	C.E.T.O. — United Kingdom
Training teachers to be producers	E. Levin	Sveriges Radio — Sweden
Professional characteristics	A. Clavé	O.C.O.R.A. — France
Characteristics and organization of the production team (television)	K. Fawdry	B.B.C. — United Kingdom
Characteristics and organization of the production team (radio)	F. N. Lloyd Williams	B.B.C. — United Kingdom
Training of production team (television)	K. Fawdry	B.B.C. — United Kingdom
Training of production team (radio)	F. N. Lloyd Williams	B.B.C. — United Kingdom
Desirable academic, professional and personal qualifications sought for in appointing professional officers to the Education Department of the A.B.C.		A.B.C. Australia
Collaboration between programme directors and engineering staff in educational television programmes		N.H.K. — Japan
Twelve years of professional training for radio and television staff		O.C.O.R.A. — France

Professional characteristics of specialized personnel	**L. Malassis**	**Délégation générale à la promotion sociale — France**
Professional characteristics of the producer of educational broadcasts	**R. Lundgren**	**Sveriges Radio — Sweden**

I,32 Training of users

Educational broadcasting : the training of users	**K. V. Bailey**	**B.B.C. — United Kingdom**
The guidance and information services provided for Swedish teachers concerning the use of radio and television broadcasts	**L. Edberg**	**Sveriges Radio — Sweden**
Training of group leaders		**Télévision scolaire du Niger — Niger**
The training of users	**M. Denel**	**I.P.N. — France**
The function of E.R.T. advisers in primary and intermediate (cycle de transition) education — the training of users	**R. Brossat**	**I.P.N. — France**
Training teachers and pupils in the use of broadcasts for schools	**R. Laborderie**	**I.P.N. — France**
Training of the personnel using programmes		**N.H.K. — Japan**
The training of users	**L. Malassis**	**Délégation générale à la promotion sociale — France**
The audience and the group-leader in rural radio		**Radiodiffusion du Togo — Togo**

Commission II

Officers

Chairman	Amadou Mahtar M'Bow **Minister of Education — Senegal**
Acting Chairman	Yves Le Gall **In Charge of Bureau for Research, Secrétariat d'État aux Affaires étrangères, chargé de la Coopération — France**
Rapporteur	Sten-Sture Allebeck **Assistant Head of School Broadcasting — Sveriges Radio— Sweden**
Deputy Rapporteur	Etienne Brunswic **Head of the integrated television circuits section, Institut pédagogique national — France**
Animateurs	Hans Julius Birkrem **Head of School Television — Norsk Rikskringkasting — Norway**
	Hymen Chausow **Dean of Television Instruction — Chicago City College — United States of America**
	Michel Debeauvais **Economist — Organization for Economic Co-operation and Development**
	Pierre Deschamps **Head of the Education, Youth Television Service of Radiodiffusion Télévision belge — Belgium**

Ricardo Diez-Hochleitner

Director of the Department of Education — United Nations Educational, Scientific and Cultural Organization

Vicente Roberto Di Pasquale

Director of the Department of Audio-visual teaching — Ministerio de Educacion y Justicia — Argentina

Sylvain Lourié

Project Officer, Educational Financing Division — United Nations Educational, Scientific and Cultural Organization

Jack Lyle

Associate Professor of Journalism, University of California — United States of America

Réal Michaud

Head of Religious, Educational and Public Service Programmes — Société Radio Canada/Canadian Broadcasting Corporation — Canada

Tsutomu Morimoto

Manager of School Broadcast Division, Education Department — Nippon Hoso Kyokai — Japan

Max Rowe

Member of the Board — Chief executive, Instructional Television Trust — Israel

John Scupham

Former Controller, Educational Broadcasting — British Broadcasting Corporation — United Kingdom

The topics on problems of organization and planning examined by this Commission were relatively novel, and it became evident that a combined effort in documentation and interdisciplinary exchange of views was necessary if pertinent conclusions were to be reached.

The working papers (totalling approximately 500 pages) that the organization have submitted to Commission II contain a detailed description of various educational radio and television activities in the world. Moreover, participants were the first to benefit from the studies that the International Institute for International Educational Planning has published on the subject. The report and studies emanating from this Commission therefore represent important and unique reference material.

However, the novelty and the complexity of the problems that figure under the various agenda points have made it practically impossible to make systematic use of this reference material in the course of the seminar.

A global approach was therefore decided upon. It has given rise to general reports which may be found in Chapter 4 in the appendices of the Final Report of the Commission.

List of working papers submitted to Commission II

1. Replies to the questionnaire forms

The replies to the worksheets

— Document 1	Description of aims and context
— Document 2	Results and educational effectiveness
— Document 3	Cost and financing
— Document 4	Structure and organization

sent to the Commission came from the following organizations :

Instructional Television Trust	Israel
Norddeutscher Rundfunk	West Germany
Hessischer Rundfunk	West Germany
Saarlandischer Rundfunk	West Germany
I.P.N.	France
Australian Broadcasting Commission	Australia
Comité franco-nigérien de la télévision scolaire du Niger	Niger
Universidad Catolica de Chile	Chile
(*document 3 supplementary*)	
Polskie Radio i Televizja	Poland
Projet pilote Unesco-Dakar	Senegal
Projet pilote Unesco-Dakar	Senegal
(*documents 3 and 4*)	
All India Radio	India
Chicago College	U.S.A.
Radiodiffusion-Télévision nationale congolaise	Congo (Kinshasa)
National Iranian Television and National Iranian Radio	Iran
Ghana Broadcasting Corporation	Ghana

Title of the communication	Author	Origin
2. Individual contributions		
Comparative study of the effectiveness of traditional education and of education by radio and television	P. Delahunty	Ministry of Education — Zambia
The use of radio and television to improve traditional teaching in Swedish schools	S. S. Allebeck	Sveriges Radio — Sweden
Some notes on the relationship between educationists, broadcasters, and those providing facilities in the devising, preparation, production and using of educational radio and television broadcasts	F. Watts	A.B.C. — Australia
Technical and economic study of the most favourable conditions for the production of educational television		B.E.T.E.A. — France
Comparative advantages and disadvantages of point-to-point transmission and omnidirectional transmission in radio and television. Transmission by cable		B.E.T.E.A. — France
How school broadcasting can help the educational world in critical situations. Some experiences in Sweden	R. Lundgren	Sveriges Radio — Sweden
Television and the teaching of science	M^elle^ C. Terlon	I.P.N. — France
Educational television for adults and French planning	R. Garnier	I.P.N. — France
The place of school radio and television broadcasting in the French Educational Plan	H. Dieuzeide	I.P.N. — France
Preparation and planning of draft vocational training programmes through television	W. El Shennawy	Television Corporation — United Arab Repulic
Structure and organization of services	T. Morimoto	N.H.K. — Japan
Possibilities and limits of educational radio and television	Mrs. Marga Nestel Begiebing	Westdeutscher Rundfunk — West Germany
Educational television for women in rural and urban areas	T. Donoso Loero L. Joanon Riosco	Fundaciones de Vida rural — Chile
University radio and television in France	R. Lefranc	Centre audio-visuel de Saint-Cloud — France
Educational radio and television and correspondence courses	M. Hatterer	Centre national de télé-enseignement — France
Memo to educational planners	J. Lyle	
Background considerations for an instructional television development programme in South-East Asia	L. H. Larkin	Center for Educational Television — Ateneo de Manila University — Philippines

Introductory statement on educational planning and educational radio and television	M. Debeauvais	O.E.C.D.
Talk by M. Lourié on the financing of education		U.N.E.S.C.O.
Economic study of television collective reception centres situated in isolated places with no electricity		O.C.O.R.A. — France
Financial aspects of educational radio and television	T. Morimoto	N.H.K. — Japan
Economic study of a production centre designed for the production of educational television broadcasts in the developing countries		O.C.O.R.A. — France
Connections between broadcasting organizations and the various government departments responsible for education	R. Michaud	C.B.C. — Canada
A strategy for getting the most from new educational media	P. Coombs	International Institute for Educational Planning
Draft report on the problems of evaluation prepared by a work-group composed of : Miss Payne, Messrs Brunswic, Chausson, Debeauvais, Lyle		
Structure and organization of services : conditions for an effective educational service	J. Scupham	United Kingdom
Structure and organization of services : types of organization	J. Scupham	United Kingdom
Original administrative structures	M. Rowe	Instructional Television Trust — Israel
Final report and appendices : working paper on aims : typical list of expenditure relative to the different stages of educational radio and television operations with commentary	S. Lourié	U.N.E.S.C.O.

Commission III

Officers

Chairman	**Louis-Philippe Kammans** Director of Television Programmes — Radiodiffusion-Télévision belge — Belgium Chairman of the E.B.U. Study Group on teaching by television
Rapporteur	**Jack Mc Bride** General Manager, Nebraska Educational Television Commission — United States of America
Deputy Rapporteur	**Jean Besombes** Chargé de Mission in the Overseas Relations Department, Office de Radiodiffusion-Télévision française — France
Animateurs	**Henry R. Cassirer** Chief, Division of use of mass-media in out-of-school education, United Nations Educational, Scientific and Cultural Organization
	Alvaro Galvez Y Fuentes Director-General of Education by audio-visual methods — Secretaria de Educacion Publica — Mexico
	Mrs. Khunying Ambhorn Meesook Director, Division of Educational Information, Ministry of Education — Thailand
	Gunnar Rugheimer Adviser to the Administration — Sveriges Radio — Sweden

Frank Watts
Director of Education, Australian Broadcasting Commission — Australia

Tadashi Yoshida
Director of Education Department — Nippon Hoso Kyokai — Japan

Officers

Chairman

Louis-Philippe Kammans

Director of Television Programmes — Radiodiffusion-Télévision belge — Belgium
Chairman of the E.B.U. Study Group on teaching by television

Rapporteur

Jack Mc Bride

General Manager, Nebraska Educational Television Commission — United States of America

Deputy Rapporteur

Jean Besombes

Chargé de Mission in the Overseas Relations Department, Office de Radiodiffusion-Télévision française — France

Animateurs

Henry R. Cassirer

Chief, Division of use of mass-media in out-of-school education, United Nations Educational, Scientific and Cultural Organization

Alvaro Galvez Y Fuentes

Director-General of Education by audio-visual methods — Secretaria de Educacion Publica — Mexico

Mrs. Khunying Ambhorn Meesook

Director, Division of Educational Information, Ministry of Education — Thailand

Gunnar Rugheimer

Adviser to the Administration — Sveriges Radio — Sweden

Mrs Kkunying Ambhorn Meesook
Director, Division of Educational Information,
Ministry of Education, Thailand

III,1 Exchange of written information and personnel

The object of exchanging information and personnel is to ensure that people working in educational broadcasting, no matter what the limitations of their actual working conditions, are at least not hampered by not knowing what can be done and is being done elsewhere.

Richer countries obviously have more to give, but perhaps much of what they do give is unusable where the receiving country is much less sophisticated in its requirements. In this case you can give what you have but you can only receive what you are ready for.

What follows in this paper is an attempt to provide starting points which, it is hoped, will provoke a sufficient discussion for the Commission to have a clear idea, at the end, of what is being done now and what the major problems actually are. This would do much to improve the effectiveness of exchanges. It would make a greater choice possible and overcome an administrative problem : everything has to be written and sent by somebody and read and judged by somebody else.

A. WRITTEN INFORMATION

1. *This is what is actually being exchanged now.*

1. Professional periodicals, *e. g. C.E.T.O. News*; not all of these are widely accessible.

2. Scripts, handbooks, etc. produced for a particular situation. These are mainly sent from the more developed countries, for linguistic reasons and because these countries usually have a far bigger administrative machine.

3. Reference works, *e. g. World Radio Handbook*. These are sometimes too comprehensive to be useful.

4. Research publications. These are written by specialists for specialists, so their appeal is unfortunately rather limited. Ideally an annual abstract outlining the main findings of research would do much to lessen the gap between an important discovery and its practical application.

2. *Problems.*

1. *Relevance.* Should information which is not strictly relevant to its destination be sent?

2. *Language.* Most material which is to be exchanged has to be in either English or French. This means that a lot of what is being done in other languages tends to be known only locally since only the main ideas can be translated. A first rate script might well be untranslatable.

3. *Money.*

4. *Lack of contact.* If you are unaware of someone's existence you cannot send him information. If a directory could be produced listing organizations which were in need of information together perhaps with a brief indication of the kind of information they require, it would be helpful. It would not solve the problem, however, because things are changing so quickly that it would soon be somewhat out of date.

5. *Administration.* In countries without special departments for this kind of thing this rather tends to be forgotten or done haphazardly.

6. *Diffidence.* If examples of what is being done are required, they should be asked for. Many countries must doubt whether what they are doing is really of interest to anybody else.

7. *Lack of evaluation of what is being done.*

B. PERSONNEL

1. *Types of exchange already existing.*

1. Experts come from advanced countries to developing countries. These exchanges are financed largely by international and multilateral aid programmes.

2. Trainees go from developing countries to more advanced organizations.

3. *Straightforward exchange.* In this case personnel are sent to do their jobs in

similar organizations to their own. The aim here is to help the men and women themselves and only indirectly either of the two countries concerned.

4. Researchers carry out surveys in all parts of the world.

2. *Problems.*

1. *Money.* Would it perhaps be cheaper to send more trainees and fewer experts and ' guests '? The relative usefulness of each might be discussed.

2. Too much emphasis is given to the broadcasting side of things. It would be at least as useful to exchange those who actually use the productions, teachers for example.

3. *Time.* The better the expert the more valuable a commodity he is. First of all, he cannot be spared for a long time. Secondly his work is often done on a scale which *demands* a longer time spent analysing the problems of the new situation.

4. Broadcasters are sometimes inadequately informed of the educational situation in the countries to which they are being sent.

5. *Recruitment.*

6. *Objectives not clearly defined.* This may result in loss of time and/or misunderstanding.

7. Insufficient evaluation of what has been done and what is being done.

Henry R. Cassirer
Chief of the Division for the use
of Mass Media for Out-of-school Education
U.N.E.S.C.O.

III,2-III,31/2 International co-production and distribution of educational programmes

NEEDS

Practical needs are at the root of the desire of educational broadcasters to seek programmes from other countries or other stations. Among those needs we may note in particular :

1. *Lack of local programming resources.*

The field of educational broadcasting is vast, the resources of individual stations generally very limited; developing countries in particular have neither the financial resources nor personnel to produce an adequate number of programmes of good quality.

2. *Need for pooling educational experience.*

To use broadcasting for educational purposes is a difficult process in which there is need for one station to learn from another. A good science programme, a good language teaching programme or an outstanding programme in any other field of education is likely to be of great value not only in itself but also as an example to other national productions.

3. *Television — the eye opener.*

One of the important tasks of educational television is to place at the disposal of its audience reports about events and activities not normally accessible to it. In the promotion of international understanding, in the teaching of geography or of science, in social studies and in many other fields, programmes from other countries can bring to the classroom and to adult audiences what no other medium of communication could bring so effectively.

4. *Lack of commercial distribution.*

While entertainment programmes offer profitable opportunities for world-wide distribution and are therefore offered by sales agents to stations everywhere, educational programmes frequently lack such commercial opportunities and therefore there is no commercial organization which makes them available at reasonable cost to stations which are in need of them.

5. *Competition with entertainment programmes.*

The very fact that entertainment programmes are sold or rented at very low rates, frequently after their production cost has been amortised in a national market, makes it desirable that other materials become available on somewhat the same conditions. The alternative is frequently that stations, particularly in developing countries, programme primarily with cheap productions obtained from abroad which have no educational value but great audience appeal, and that their own national production as well as the scheduling of educational programmes suffers greatly by comparison.

OBSTACLES

While these needs are pressing, obstacles to international exchange and distribution of programmes are no less marked.

1. *Adaptation of programmes to national conditions.*

Education is nationally conditioned; curricula are nationally or even locally established; social education must relate to local social conditions. To make the transfer of programmes from one country to another is therefore difficult if not impossible in many cases. A careful choice must be made of certain programme categories, such as language teaching, which lend themselves to wider dissemination, and of others which cannot be thus distributed.

2. *Information.*

To obtain information which is adequate for the choice of programmes is difficult because so many programmes are being produced and so little information is internationally available about them. Moreover, a mere catalogue of productions does not provide sufficient information for the producer to know whether the programme is in fact suited to his needs. Ideally, no programme should be chosen without being viewed in advance, but viewing facilities do not exist on international or regional bases, and even viewing at national production centres is frequently not an easy matter.

3. *Lack of recordings, expense of copies.*

Many educational programmes are not recorded, or if recorded, are kept on videotape only for a short period. Such programmes obviously cannot be made available to others. Where programmes are recorded on video tape or film the expense of making copies is frequently prohibitive for distribution to low financed broadcasting organizations. This obstacle is more serious for educational programmes than for entertainment programmes because there are less educational programmes which may be expected to have a wide international audience and thus require many copies.

4. *Copyright and performance rights.*

Stations normally make little provision in their contracts with writers, musicians, recording companies, performers, etc. to obtain the right to distribute their productions to other stations or other countries. The additional cost of such clearances can only be borne if assurance of corresponding income is given, or if they are recognized as valuable with a view to rendering an international public service.

5. *Differences of needs.*

The more affluent important broadcasting organizations have relatively little need to obtain material from other countries. Their own productions are well developed and their audiences view critically programmes not directly suited to them. The real pressure for programmes comes from stations which have small resources. But these very stations are generally not in a position to set up an international distribution scheme or to pay high fees for programmes from other countries. The advanced countries have their own agencies prospecting abroad. Developing countries have no such agencies but much greater need.

ACCOMPLISHMENTS TO DATE

Despite these many obstacles there are some accomplishments in international or national cooperation in the distribution of educational programmes.

1. *Supply by diplomatic agencies.*

Many diplomatic reprensetations of advanced countries supply programmes or films from which other countries may draw to meet their educational needs. Obviously the selection of these programmes is determined by the national interests of the donor country and the choice of titles is restricted. Nevertheless, here is a source of programming widely used.

2. *National co-operation in the United States.*

The National Educational Television Center (N.E.T.) in New York has brought about close co-operation among educational stations and commissioned the production of programmes which are widely distributed. This national experiment, heavily underwritten by the Ford Foundation, is of direct interest to those concerned with international distribution.

3. *Production and distribution of kits.*

The production of programme elements which can be adapted into national programmes is obviously one of the best ways to overcome some of the obstacles indicated earlier and to obtain widest usability of programmes. Here the experience of the Centre for Educational Television Overseas (C.E.T.O.) is of particular importance.

4. *Commercial distribution.*

Some educational programmes of wide potential use have found their way also into the lists of productions offered by commercial distributors. Similarly educational film production companies also offer on a commercial basis films suitable for television.

5. *International prizes and screenings.*

Lack of viewing facilities is one of the main handicaps in the choice of programmes. There is therefore particular value in events at which outstanding educational programmes are screened for experts from many countries. Such screenings are of course only of real value to international exchange and distribution if they are attended by those in a position to make choices, if there is sufficient time and opportunity to see many of these programmes, and if practical arrangements can be made to obtain copies of programmes seen.

POTENTIAL SOLUTIONS

The need for some international machinery to promote the international distribution of educational programmes has long been recognized. U.N.E.S.C.O. convened a *Meeting of experts to promote international co-operation between film and television* at Tangier — 19-30th September, 1955. This meeting proposed an ambitious project for the establishment of an international centre of educational, scientific and cultural films for television. It also examined many of the legal and technical problems involved. This centre, which was to have viewing facilities in North America and Europe, proved to be beyond practical organization due to the financial costs involved. Moreover, as has been indicated earlier, the more affluent broadcasting organizations which might have been in a position to make financial contributions to the centre were, because of their own prospecting facilities, less convinced of its need than the smaller stations.

The project was discussed in greater detail and reduced in scale by the *Meeting of experts for the establishment of an international centre of educational, scientific and cultural films for television* convened at U.N.E.S.C.O. in Paris — 13-20th June, 1956. This more reasonable project still proved to be beyond practical possibilities. The subject was once more touched upon at a *Meeting on television in the service of international understanding* convened by U.N.E.S.C.O. in Paris — 29th June — 1st July, 1960. This meeting adopted a recommendation which asked U.N.E.S.C.O. to approach the international Film and Television Council with a view to setting up machinery which would make continually available information on programmes obtainable through international distribution and which would contribute to international understanding. The Council studied at length such a project in co-operation with the regional professional broadcasting organizations which are members of the Council. Once again it was impossible to find a workable solution agreed to by all.

These numerous studies and meetings indicate that only a modest approach may produce results. The main problems encountered were the quality of material which is continuously being produced and would have to be catalogued; the problem of objectively seeking among this material programmes considered most valuable and of evaluating them in a way that is useful to the user; the need to view programmes and not only to receive written information; the considerable finance needed for cataloguing, pre-screening, selection, evaluation, permanent screening facilities, distribution of written information in several languages, and distribution of prints.

In the light of these difficulties one may perhaps examine more restricted projects — restricted to a few countries of a particular region, to one or more subjects, to one language only, etc. U.N.E.S.C.O. itself has requested the Council to prepare a catalogue of programmes on great men in education, science and culture, one example of such a restricted approach. Secondly, there may be great value in more production of programme elements not only on a world-wide but also on a regional basis. Thirdly, a closer link might be made between co-production and distribution — that is to say, programmes co-produced between a number of countries for international use might ipso facto lend themselves better to international distribution.

Gunnar Rugheimer
Adviser to the Administration-
Sveriges Radio

III,33 Method of establishing a library of educational films and sequences

School broadcasters the world over are, as has been testified to here, singularly oriented towards international collaboration and exchanges. There is certainly no lack of good will. But practical difficulties, and especially the very sthingent conditions under which school broadcasters work, combine to make international collaboration very difficult, unless it is undertaken in accordance with very strict requirements. A great deal of effort and energy has already been expended on various projects for international collaboration in the field of school broadcasting; many of these have never got off the ground, or have been found to yield less than was expected when the project was conceived. Inevitably, this has led to some disappointment and a consequent loss of enthusiasm and momentum.

Before new ventures in international collaboration are entered upon, it is extremely important that the experiences of the past be taken into account, and that furthermore before a project is begun a detailed and realistic appraisal of its feasibility is undertaken.

As is well known, there have been, in the past, a number of projects under which complete programmes have been exchanged. Although there are difficulties to be overcome, the exchange of complete programmes can sometimes be rewarding in the field of enrichment. But in the field of direct teaching the exchange of complete programmes has had little or no application except where the curricula are identical. This, however, is rare. As we have already heard, education is nationally conditioned;

curricula are nationally or even locally established. And direct teaching by television requires great precision in the choice of illustrations.

The most useful method of collaboration between broadcasters engaged in direct teaching is the exchange of illustrative sequences. This applies especially to sequences which are difficult or costly to produce, or which require resources and time not usually available to the individual broadcaster. There are many examples of such sequences, *e. g.* films showing advanced experiments in physics and chemistry, the very difficult and time-consuming sequences available in the field of biology, such as time-lapse-sequences, microphotography, etc. Most school broadcast producers, even in major broadcasting organizations, find it impossible to produce such sequences, because of the practical difficulties involved. The usual approach of the school broadcast producer when such sequences are required is to try to obtain them from outside sources. Some sequences of this type, but very few, are available from commercial catalogues. The choice, however, is limited and there is the further difficulty that by no means all school broadcasting organizations have at their disposal such commercial catalogues. This applies especially to the smaller organizations, where commercial interests may not find it economically worth-while to pursue what might be a very limited market.

As is revealed by the survey of biology sequences undertaken last year by the Irish Broadcasting Service, broadcasting organizations within the European Broadcasting Union obtain a considerable number of biology sequences from various research organizations, individual scientists, pharmaceutical firms, etc. not normally engaged in, nor interested in the field of commercial film distribution. In most cases it seems that these sequences are located and obtained through individual contacts between the school broadcast producer, in charge of a particular project, and the scientific organization or scientist in question. The Irish survey also reveals that, in a number of cases, the same sources, within the field of biology, are utilized by producers in different countries.

A pooling of the knowledge, thus already available, would seem a desirable development. Theoretically, at least, it should make it easier for producers to obtain difficult sequences. The Irish survey makes it clear, however, that there remain a number of difficulties which would have to be overcome, before an exchange of the actual footage is a practical possibility. In this connection, it is important to take into account the working conditions of the average school broadcast producer. In spite of his didactic intentions, the school broadcast producer works very much like a journalist, in the « here » and « now ». Usually, he or she has a limited time to prepare the programme. The programme itself is intended either for a single transmission or in any case for limited use. Usually the copyright clearance effected on material from external sources is for a single transmission, and is in any case confined to the country or region covered by the broadcasting organization. Once a finished programme has served its purpose, it is usually transferred to a library within the broadcasting organization. The extent to which individual sequences in finished programmes are catalogued and sources accounted for, varies from organization to organization.

The Irish survey has revealed that there is, at least in the field of biology, considerable material now in the archives of broadcasting organizations, which could be useful and interesting to others engaged in school broadcasting. However, under present circumstances, it is very difficult to gain access to this material. The survey has shown that, depending on the sophistication of the cataloguing in the producing organization very often the help of the individual television producer concerned had to be enlisted in order to locate particular sequences. Furthermore, physical access to the programme-material which had gone into « dead storage » was often difficult. Finally it was found, that, except in the rare cases where the broadcasting organization itself had produced the material, copyright had only been cleared as required for local or national purposes.

It is clearly not feasible to base a system of exchange solely on the good will which exists between school broadcasting producers and organizations. First of all, the producer who needs a sequence usually has a time problem. Secondly, the « supplying » school broadcasting service is usually so busy with its own tasks that the supplying of information and library material to friends and colleagues must take second priority. Thirdly, the duplicating of short sequences is often difficult to obtain. Laboratories engaged on fulfilling domestic requirements usually have to give such requests for copies a low priority. Finally, it is difficult for the « host » organization to obtain copyright clearances which are transferable. Without such clearances the material cannot usually even be copied for viewing purposes. In this connection, I believe it has been suggested that one might further the exchange of sequences, if broadcasting organizations when clearing copyright for local or national needs, were also to clear copyright for a wider area, for instance for the area of the European Broadcasting Union. There would, however, be difficulties. For one thing, it would be required of the clearing organization that it would guarantee to the copyright holder, that any stipulation imposed by the copyright holder would be observed by the sub-licensees. In the event of any breach, even inadvertent, of these conditions, there could be complications between broadcasting organizations which one feels would better perhaps be avoided. Furthermore, even if the cataloguing and copyright problems could be solved, it would probably tax the good will of even the largest broadcasting organizations to receive from colleagues repeated demands for sequences which have to be delivered at short notice.

It seems clear therefore that if a system of exchange of specialized sequences is to work, the system must incorporate the following features :

1. A complete descriptive catalogue of such a nature as to make it possible for a producer to select the sequence without screening;

2. Copyright clearance must be available or at least the terms on which copyright clearance would be obtainable must be explicitly stated;

3. Copies (positive prints or dupe negatives) must be obtainable promptly after ordering and without having to invoke the generosity, or compassion, of fellow broadcasters.

The recommendations below are intended to sketch a system which meets these requirements.

PROPOSALS

1. *Purpose.*

To establish a central library of film sequences illustrating processes and experiments in the fields of physics, chemistry, biology and technology, with particular emphasis on those processes and experiments which for their illustration require sophisticated and difficult filming techniques, and to make copies of such film sequences speedily, and in suitable form, available to broadcasting organizations for the purpose of non-commercial educational broadcasts.

2. *Administration.*

The library should be created under the sponsorship and with the support of an established international organization, *e.g.* the European Broadcasting Union. The library would require access to funds, both for the purpose of buying films and for the functioning oflending operations. *It is important that the library be financially self-supporting, the object being that the cost of the library's operations be paid by the users.* (Suggestions as to a method of financing will be dealt with below.) The library should have a full-time staff, and in addition, employ specialists on a part-time basis or on short-term contracts. The guiding of the affairs of the library should be entrusted to a small group of directors, drawn from broadcasting organizations actively engaged in teaching by television.

3. *Method.*

To begin with, the library should undertake a detailed survey, covering each of the subjects mentioned, of film-sequences held by research laboratories, universities, broadcasting organizations, firms engaged in scientific research, such as pharmaceutical companies, oil companies, government film organizations and existing film libraries. In addition, producers and distributors of educational films should be surveyed, in order to locate the existence of suitable material.

Once the result of this survey has been analysed the library should embark on a programme of acquisition with a view to acquiring from the original owners :

a. dupe negatives of the desired film-sequences;

b. licences to copy, and to distribute, film-sequences to broadcasting organizations participating in the library and to license the use of such sequences in non-commercial educational programmes transmitted by member organizations.

The library should prepare and issue a catalogue covering all film-sequences thus acquired, giving detailed information about the content of each sequence (shot-lists), the intention being that the catalogue should be so constructed that the producer, on the basis of the information supplied and without having to order a viewing print, should be able to determine the usefulness of a sequence for his particular task. In this connection, consideration should be given to the possible inclusion in the catalogue of selected still frames from the sequences.

A dupe negative of each sequence acquired and catalogued should be placed at a central location, to be selected with a view to ease of access, minimum customs-formalities and financial restrictions. Once such a location has been determined, it should be possible to find a commercial film laboratory where the dupe negatives can be placed in permanent storage. This film laboratory would, as requested, make copies of sequences as ordered and be responsible for despatching them.

The library should periodically (perhaps annually) engage on programmes of revision and new acquisitions. In this connection, the contacts established during the initial survey will be of value. In addition, broadcasting organizations engaged in educational television should be encouraged to report to the library on any film-sequences which they might come across in their own research and production work. From the point of view of the individual school broadcasting department this is a far less onerous task than having to supply colleagues individually and collectively, with information and prints.

4. *Finance.*

As already pointed out, it is desirable that the library be self-financing, at least as far as operating costs are concerned. This approach will assist in making the library a service organization to the user organizations, and it will also provide a means whereby the activities of the library will be tailored to the needs of the users.

A possible approach to the financing of the library would be : the capital and operating needs of the administration, research, cataloguing and acquisition activities of the library to be covered by annual subscriptions from broadcasting organizations, these subscriptions being scaled to reflect the size and economy of the country in question. (For instance, the subscriptions could be based on the number of television licences in each country — a system similar to the so-called Rossi-scale used by

Eurovision.) In addition to the annual subscriptions, a flat charge would be levied on each print order to cover the costs of copying, handling and shipping.

5. *Personnel.*

The library should be managed by a full-time, qualified film librarian, preferably with experience in film-classification and with a background of scientific library work. The librarian would require secretarial and administrative assistance.

For the initial survey of sequences outlined above, it is proposed that the librarian, in consultation with the directors, appoint, on short-term contracts, specialists in each subject-matter to carry out the initial surveys in their field. It is not necessary that these specialists be television producers, but besides knowledge of their own subject it would be desirable for them to have had some experience of the use of visual aids in teaching, and the requirements of television production. It is also suggested that the librarian, in consultation with the directors, could enlist the use of such specialists in the proposed annual review of the library and in further acquisition.

It is hoped that by obtaining the patronage of an established international broadcasting organization such as the E.B.U., it would not be necessary for the library to have its own staff to deal with legal problems arising out of copyright and contract but to rely on already existing legal machinery.

It is not proposed that the library should acquire any staff or personnel for film-handling, storage, copying, etc. These duties should be contracted out to a commercial film laboratory, as mentioned above. In view of the fact that all ordering of copies, shipping, etc. would be handled by this commercial laboratory the clerical requirements of the library would be reduced to a minimum,

6. *Technical considerations.*

To minimize problems of standards, etc. it is proposed that the library should handle 16 mm film exclusively, and that any sequences in other media (videotape, 35 mm etc.). be converted by the library to 16 mm before being included in the catalogue. The question of colour should be studied.

Sequences should be available to users either as dupe negatives, for their own printing, or as positive prints.

In acquiring film-sequences the library should endeavour to obtain as much unedited footage as possible, *i. e.* whenever possible, copies of the original negative without opticals, dissolves, etc., the object being that the sequences should be as adaptable to local needs and requirements as possible. On the other hand, the library should not undertake any editing or selection of shots, on behalf of users; in the interests of the efficient running of the library users desiring a particular shot should have to order the entire sequence in which the shot is located.

7. *Legal considerations.*

It is important that the library should have the assistance of experts in copyright and broadcasting law. For that reason, it is recommended that a standard contract for acquisition be prepared by, for instance, the legal department of the E.B.U. Similarly, it would be necessary for the library to enter into contracts with the users covering the conditions under which licences in copyright are granted. It should be open to the library to purchase footage, to accept footage on condition of courtesy credits being given on each use, or to accept donations of footage. However, as a rule, no individual user using library sequences in non-commercial educational television broadcasting should be required to pay any additional copyright fee. A study should be undertaken to determine the extent to which either national legislation or the policies of individual broadcasting organizations preclude the giving of the kind of courtesy credits which are requested by some producers of scientific films.

Summary.

It is important that the proposed library obtain the patronage of an established international broadcasting association. This would facilitate the managing of legal, financial and administrative problems and would also be an important factor bearing on the acquisition of the copyrights required. Many desirable and interesting sequences are produced on a non-commercial basis in laboratories in universities. Such bodies are much more likely to part with the required licences in copyright on reasonable terms to an international body which can guarantee that commercial exploitation will be avoided.

Tadashi Yoshida
Director, Education Department,
Nippon Hoso Kyokai. Japon

III,4 Distribution and transmission of educational programmes by satellite

1. Since the field to be covered under this theme is so wide and involves a number of undetermined factors, experts in technology, education and international law should, in our view, be called upon for up to the minute information and data.

2. Although the theme given mentions only international transmission, it is our opinion that importance should also be attached to the use of satellites for national transmission and, therefore, discussions should be held in this respect as well.

3. In connection with *Technical Possibilities* the following items deserve our particular attention :

a. In anticipation of the Fourth International Conference on Radio and Television, we want to discuss the technical possibilities which may have been explored up to that time.

b. Emphasis should be placed on the functions of the distribution satellite in the process which goes from the communication satellite to the distribution satellite to the broadcasting satellite. We want to examine whether receiving stations of the conventional type (not necessarily key stations) or community stations or collective reception centres can be used in the very near future as ground bases to receive signals from the distribution satellite. We also want to know when it will be possible to use portable equipment for reception or transmission at ground-level.

c. The following questions should be studied :

— Is it necessary to launch satellites designed exclusively for broadcasting?

— How many channels for radio and television will they be capable of relaying?

— How to prevent interference by land communication networks?

— Is V.H.F. preferable for radio?

— How many channels for sound frequencies will be possible for one picture?

d. Will it be possible to use the distribution satellite as a substitute for the national network, for international exchange?

4. *Cost.* Particular attention should be paid to the following questions :

a. How are the current tariffs for the use of the communication satellites determined? Are any reductions foreseen? Which is more economical, transmission by the satellite or videotape by airmail?

b. Will the satellite designed exclusively for broadcasting be more economical than the general communications satellite?

c. Which is more economical for national broadcasting, the distribution satellite or the land broadcasting network?

5. The following items should be considered in relation to *programme contents* :

a. If and when the satellite is used for international exchanges, which should be stressed, radio or television?

b. If and when the satellite is used for international exchanges, on what subjects should it be applied to produce the greatest possible efficiency? How should we make the most of the immediacy of international relay programmes for educational programmes? Programmes for international fraternity and discussions and programmes dealing with events of the day seem to be the most appropriate for this purpose.

c. Is it not conceivable to broadcast, by means of artificial satellites, educational programmes based on world-wide curricula worked out by international co-operation aiming at the establishment of what we call ' citizenship ' which can be acceptable the world over, in parallel with the new subjects currently studied in various countries? How should such curricula be worked out and how should programmes based on them be prepared?

d. What can we expect for the promotion of education in developing nations? How should we apply the artificial satellites for a crusade against illiteracy?

e. How should we cope with the language barrier in international exchange? To what extent can we apply plural sound channels and the automatic translating machine?

f. Is there any possibility that the modes of application of satellites for educational purposes will be modified according to the technical development of satellites?

6. The following items can be considered in connection with the structures of transmission and reception :

a. Who should be responsible for the over-all control in co-ordinating programmes to be broadcast by means of artificial satellites?

Is it necessary to take measures for reserving a certain number of channels for educational purposes and making it compulsory to maintain a certain percentage of educational programmes?

b. How should we co-ordinate the activities of organizations broadcasting by means of artificial satellites? What can we expect from the United Nations and its agencies concerned in this respect?

Is it necessary to create an international organization to do the job?

c. How will regional communities or systems for international co-operation be organized for reception? If the organization of collective viewing systems (schools or clubs) is considered necessary, how shall we proceed with it?

d. Should the promotion of education in newly developing nations be aimed at, over what part of the globe should satellites be launched?

To what extent should differences in time and language be taken into account?

e. To what extent should one try to control the impact of important broadcasting organizations, whether State-controlled or private?

7. The following items must be studied in relation to *legal problems* :

a. As international exchanges expand in scope, how will they affect questions of copyright and royalties?

b. Who will be most responsible for the activities in space of broadcasting organizations? And to what extent?

c. How should rules and regulations be drawn up to facilitate the participation in the existing space communication networks of newly developing nations? Who will determine tariffs for the use of satellites, and how?

d. Is there any possibility that freedom of information may be curbed unfairly by technical restrictions or for political reasons? On the other hand, to what extent can we apply the principle of the freedom of information, or what restrictions should be placed on this principle in connection with libel, advertisements, belligerent propaganda? How should legal regulations in various countries be co-ordinated in this respect?

8. *Subsequent measures.* Taking into consideration that the Conference is the only worldscale consultative body for educational broadcasting we may expect remarkable progress to be made from a technical point of view between the forthcoming and its subsequent sessions. The following resolutions are therefore proposed for discussion :

a. An ad hoc committee, comprising experts in programming, engineering and legal matters, should be created within the framework of the E.B.U. to study problems as they arise.

b. Experimental projects for the application of satellites should be carried out and the results of their work should be evaluated. The planning of projects is in charge of the said committee, and they should be put into operation in co-operation with member organizations of the E.B.U.

Tadashi Yoshida
Director, Education Department,
Nippon Hoso Kyokai. Japan

III,41 Utilization of satellites for educational purposes

The N.H.K. is now considering plans for utilizing artificial satellites in order to further domestic and international education.

The N.H.K. is investigating the possibilities of direct satellite broadcasting as a form of future utilization of satellites. For this purpose, research is being conducted for launching such satellites. As of now satellite development work is being actively undertaken with a view to launching broadcasting satellites with the collaboration of the rocket development centres. The launching is expected to take place after 1969 in accordance with the progress of the satellite development projects.

When the utilization of these satellites for broadcasting becomes possible, the principal use will be for domestic broadcasting purposes. However, if the capacity of the satellites, the equipment of the ground stations in various areas, the frequency bands used, the standard systems, etc. allow, the satellites will also be used for programme exchanges with neighbouring Asian nations.

As a means of utilization for domestic broadcasting purposes, nation-wide transmission of educational programmes via the satellites is under study, for the entire area of Japan is expected to come under coverage of the satellite.

If the satellite is capable of bringing the Asian region under coverage, it will be used for transmission and reception of news between Japan and other Asian nations. In addition, as part of the international co-operation among the A.B.U. nations, the satellite will be utilized for distributing and exchanging educational and cultural programmes.

No concrete plans have yet crystallized either with respect to domestic or international use of satellites, but these will be considered along with progress made in the development of satellites in the future.

In case plans for the distribution and exchange of educational programmes utilizing satellites involving broadcasting organizations of two or more countries should be carried out, they must be implemented under co-operation with such organizations as A.B.U., E.B.U., U.N.E.S.C.O., I.T.U. and other related international bodies with which an agreement must be reached regarding the method of operation and the various problems that may arise in connection with such an operation.

In the case of Asia, programmes with contents that will contribute towards the spreading of primary education and the raising of the level of general adult education are considered the most appropriate. With regard to school programmes, however, careful review of the educational levels, educational systems, curricula, etc., of various countries should be necessary. In any case, it will be necessary to clarify the objectives of the plans for satellite utilization with adequate knowledge of the actual state of education and requirements for educational projects in A.B.U. countries interested in the utilization of satellites for educational purposes.

The problem of languages is expected to be solved by connecting a number of sound channels to the same picture transmitted from the satellite.

From the legal point of view, it will be necessary to look into means of settling the questions of editorial rights and copyrights. The need for international codes or standards for programmes is also worth thinking about.

Charges for the use of satellites and the costs of programme production will constitute important financial problems to be looked into.

In the case of international distribution and exchange of programmes using communications satellites, apart from the use of direct broadcasting satellites, the necessity for simultaneous relaying of educational programmes may cause serious problems. Plans for satellite utilization must go together with a comparative study of the advantages and disadvantages of existing methods of international co-operation (exchanges of films and tapes).

The need to establish a single centre of operations, which will be in charge of programme planning, production, transmission and administrative affairs incidental to them must also be considered in the future.

List of working papers submitted to Comission III

Title of the communication	Author	Origin
III,1 The exchange of documents and personnel		
III,11 Classification of written information		
Exchanges of information and documentary systems (supplements to the introduction of the classification of written documents in the field of educational radio and television)	M^{me} Gardin	Général Organizing Secretariat
III,12 Exchanges of professional personnel and information		
Description of specialized personnel	A. Clavé	O.C.O.R.A. — France
Exchange and co-operation	O. Reed	B.B.C. — United Kingdom
Seminar for producers and directors	F. Tappolet	S.S.R. — Switzerland
III,2 International co-production of educational programmes		
III,21 Account of co-productions achieved		
Summary of the communication : « Ten years of practical research on the co-production of educational programmes »	A. Clavé	O.C.O.R.A. — France

School television : international co-operation in the field of geography	K. Fawdry	B.B.C. — United Kingdom
Three examples of international co-production	S. Minéo	I.P.N. — France
The struggle for peace	B. Wenham	A.B.C. — I.T.V. — United Kingdom
Co-production of educational programmes, Scandinavian co-productions	E. Levin	Sveriges Radio — Sweden
Co-production of foreign language broadcasts in Scandinavia	Mrs G. Mellvig-Ahlstrom	Sveriges Radio — Sweden
An attempt at Franco-British Co-operation	M^{me} Sultan	I.P.N. — France

III,22 Language problems arising from international co-productions

Utilization of French programmes abroad	J. Bordier	I.P.N.— France

III,3 International distribution of educational problemes

Summary of a communication « The Malaria File »	A. Clavé	O.C.O.R.A. — France
Co-production and exchange of modern language programmes, Scandinavian experiences	K. Klynne	Sveriges Radio — Sweden
Exchange and co-operation in educational radio and television	C. Kolade	N.B.C. — Nigeria
Activities of the U.R.I.	A. Lanoux	U.R.I.
Exchange and co-operation	E. R. Okoula	Radiodiffusion-télévision congolaise — Congo Brazza
Some thoughts on what factors should be kept in mind when seeking exchange programmes especially from countries with differing backgrounds	F. Watts	A.B.C. — Australia
N.H.K.'s international co-operation in the field of educational broadcasting	T. Yoshida	N.H.K. — Japan

Activities of the Council of Europe in the field of educational radio and television		The Council of Europe

III,31 Juridical and practical problems raised by the international distribution of educational programmes and financial difficulties

The free international flow of visual and auditive material	P. Léglise	C.N.C. — France

III,32 Technical difficulties

Technical difficulties		A.B.U.
Survey on present possibilities of circulation of picture-recordings		B.E.T.E.A. — France

III,4 The broadcasting and distribution of educational programmes by satellites

The use of a communications satellite in an educational programme computer by « Early Bird »		Granada Television I.T.V. — United Kingdom
Media interests in communication satellites	W. C. Meierhenry	Nebraska University — United States

III,33 Catalogue of productions

Report on the E.B.U. Biology Project	A. Woods	R.T.E. — Ireland

Commission IV

Officers

Chairman	Wilbur Schramm **Director — Institute for Communication Research — Stanford University — United States of America**
Rapporteur	Fred B. Rainsberry **Supervisor of School Broadcasts and Youth Programming — Société Radio Canada/Canadian Broadcasting Corporation — Canada**
Deputy Rapporteur	Maurice Fauquet **Head of Research, Centre audiovisuel de l'École normale de Saint-Cloud — France**
Animateurs	Mrs. Helen Coppen **Professor — Institute of Education — University of London — United Kingdom**
	Max Egly **Co-director, Télévision scolaire du Niger — Niger**
	George Gropper **Program Director, Instructional Media Studies, American Institute for Research — United States of America**
	Mrs. Hilde Himmelweit **Professor of Social Psychology — The London School of Economics and Political Science — United Kingdom**

Arthur A. Lumsdaine

Chairman, Department of Psychology, University of Washington — United States of America

Pierre Mandl

Sociologist — Switzerland

Warren Seibert

Head, Instructional Media Research, Purdue University — United States of America

George Wedell

Professor, Department of Adult Education, Manchester University — United Kingdom

IV,1 Terminology

Different working-papers of the Terminology group directed by Mr George Wedell and M. Pierre Schaeffer :

— the actual report of this group,

— the index of key terms,

presented to the Conference during the last phase of the work, are published in Chapter 4, after the Final Report of Commission IV.

— The vocabulary, which was also presented to the Conference, has been published at the end of this volume, in Chapter 5, to make it easy to consult.

IV,2 Research information

As the report of this work-group, directed by Mrs Helen Coppen, has been included in the Final Report of Commission IV, readers should consult Chapter 4.

The order in which the following reports are presented here is that adopted by the authors. Although it does not follow the order of the items laid down in the terms of reference it does, on the other hand, give a better idea of the way the work of the Commission proceeded.

Robert Quinot
Institut pédagogique national, France

IV,3 Methods of checking and evaluating results

The recommendations of the last Conference stressed the necessity of « defining a new form of teaching on the basis of the evalution of the results obtained by broadcasts in the classroom, an evaluation necessitating the use of more scientific methods to replace the methods used at present which often have the weakness of being too empirical ».

In his introductory statement, the ' animateur ' stressed first of all three types of data preliminary to any effective study :

— knowledge of the basic aims of the broadcasts;

— nature and form of reception;

— examination of the attitudes (for and against) of the public, both teachers and pupils.

Then he raised the question of the effects sought by distinguishing between :

— the pedagogic effects naturally expected from the analysis of the aims of the programme (verification of acquisition, learning a pattern of behaviour, development of an aptitude);

— and the complex psycho-pedagogic effects linked to the audio-visual medium and to the behaviour of the subject.

Finally, he showed that the research-worker has at his disposal a range of evaluation techniques which operate at more or less scientific levels : the search for documents allowing the immediate reactions of teachers and pupils to be rapidly identified and hypotheses to be formulated, sample enquiries, systematic observation associated with measuring-instruments (examinations, tests), experimentation of trial programmes, or mock-ups.

He ended by showing the difficulties of interpreting results; specific effects of audio-visual messages do not always seem to come from clearly defined types of behaviour in response to the given situation.

Eight written communications had been published as Working Papers. Five of them were dealt with in detail on the platform and were the subject of discussion.

The United Kingdom presented a study of the evaluation of programmes. This consisted of general surveys intended to throw light on the composition of the public, and specialized surveys. The latter bring out the fact that viewers select individual broadcasts rather than groups of broadcasts and also the necessity of establishing a closer link between the accompanying material and the broadcasts. For all the series in which evaluation plays an important part, an average of 25 reports a term are made. The School Broadcasting Council (22 civil servants, experienced teachers) produces confidential reports on present trends in teaching and on the use of certain series. Three studies entrusted to independent research were noted; an experimental study of a technology course, research on the results obtained by pupils having followed history and geography programmes, and a survey of the results of experimental programmes intended to help children not up to the required level in Latin. Finally, efforts have been made to perfect methods specially prepared for the evaluation of educational broadcasts for adults.

Two communications were presented by *Israel.*

The first formulated some ' Recommendations for feedback and experimentation '.

The report analyses methods of presenting teaching material on television and the real integration of televised educational courses into the school syllabus.

The analytical inventory of the principal fields of research, illustrated by problems as they occur in concrete terms in Israel, ends on three considerations :

— the researcher must take an active part in the initial preparation of each programme;

— the criteria of measurement can only be determined from a pedagogic point of view with the help of the team of teachers;

— any recommendations of practical interest must be based on an acceptable ratio between the cost price and the results hoped for.

The second communication from *Israel* gave details about certain methods of inquiry (questionnaire-cards, more detailed questionnaires dealing with a whole series of programmes, visits to schools, groups of sample-pupils called on to answer questions before and after listening to a programme). A random sample of 700 teachers enables the listening-rate in schools to be checked as well as the reactions of teachers.

France presented four reports :

— The first concerned non-standarized information and its meaning. This consists of spontaneous documents, individual or collective (drawings, handiwork) sent by pupils, letters and reports, also spontaneous, sent in by teachers. This material is completed by questionnaire-cards (assessment-cards), the amount of which returned, without being significant of the size of the audience of the programme concerned, supplies the programming and production services with a preliminary outline of programme-users' reactions.

— The second report dealt with the « conditions and limitations of the pedagogic effectiveness of the teaching of Latin by radio ». The experiment took place in 32 classes and made use of the comparative method. From an analysis of the content of Latin programmes for first-forms, three tests were constructed. The results were analysed (Student's « t », variance, correlations, co-variance tests) and enabled several observations to be made about the effectiveness of the method in relation to the qualifications of the teachers, and about the comparative effectiveness of radio and records in teaching the same material.

— The third communication tackled the methodological problems relative to checking results in the context of making tape-recordings of school radio programmes. Observation cards were used to note the pedagogic procedure, step by step, according to whether radio or tape-recordings were used. Furthermore, direct observations in class were made to record the attitudes of the teachers and the behaviour of the pupils.

— The fourth report is a description of the technical arrangements used to record the behaviour of one or several students during reception of a television programme, and to represent graphically the variables involved to make it easier to analyse them. The coding of the different variables, the observation arrangements (photography and sound recording), the role of the operator-observer, the analysis of the technical transcription-documents and their graphic representation are examined in great detail in the light of a specific case. The observation did not disturb the students, and the fact that a double role was given to the operator-observer guaranteed the synchronization between the ' film to film ' shots and the elements of the variables recorded on tape. The graphic representations proposed enable the data necessary for statistical comparisons to be established.

Australia presented « a few remarks on the methods used to evaluate the effectiveness of school programmes on radio and television, with an estimate of the value of these methods ».

The estimate of the effectiveness of programmes is constantly revised in relation to the renewal of teaching methods, of school programmes and of the needs of teachers. An Organization and Evaluation Committee, which includes practising teachers is associated with each programme. In rural, thinly-populated areas, the Regional

Committees play an identical role. General enquiries, which may cover all the schools in one State, seek to find out in greater detail the number of listeners per programme, the opinion of the teachers, etc.... For more detailed information about a programme, selective sample techniques are used.

Hungary presented a communication on the methods used for the analysis of the results of radio programmes at the level of ordinary school teaching. To begin with, the first studies dealt with the quantitative evaluation of the audience of the programmes. Observation services, consisting of teacher-correspondents from 40 schools, send reports after the utilization in class of new programmes. In addition to this, teachers, psychologists and radio specialists take part in parallel observations in pilot-classes, some using, some not using, programmes on ethics, history and literature.

The report from *Niger* concerned a series of tests carried out on the children of two experimental classes in Niamey. This test is aimed more at adjusting and testing programmes and the structure of progressions than at establishing comparisons with traditional teaching. These tests dealt with language-learning and with arithmetic. Furthermore, observations were made of the graphic and audio-visual learning-processes of seven- and eight-year old children. The idea was to determine to what extent these children, who had had no previous audio-visual training in their habitual surroundings, were capable of identifying objects, actions and drawings presented in the programmes without the aid of their native language. Observations of reactions were made, followed by technical tests using an interpreter. Test-programmes, systematically presenting very simplified pictures, have also been broadcast. The writers and production team were able to use a large amount of information gathered in this way.

Several reports were the subject of requests for explanations and a brief discussion. The essential points were later taken up in a general debate in which the English, American, Israeli, Belgian, French, Nigerian and Yugoslav delegates, in particular, took part. Delegates stressed the necessity of more tightly articulating the evaluation operations on aims clearly defined by teachers, whether producers or utilizers. This would make for a better understanding between researchers and teachers and would increase the efficiency of the work of evaluation, the conclusions of which could be taken into account more easily by the programme and production services.

A discussion about what is actually measured showed the validity of the pragmatic methods used identically in several countries in relation to the pressures of their own educational systems. The importance of research preceding the transmission of programmes was stressed, whether it was a question of detecting needs or of carrying out pre-testing of experimental sequences or test-programmes.

The systematic checking of results was discussed at greater length; if by this we mean certain operations for measuring effects (memorization, psychological effects, ability to do something, ability to think), the complex, onerous methods used tend towards fundamental research which implies a very rigorous preliminary determination of the effects sought after.

Several descriptions of experimental situations give the impression that one of the essential preoccupations in this field is to try to achieve effectiveness through modifications in the behaviour of pupils and teachers (comprehension, motivation, encouragement to individual or group work, modification of teaching methods, etc.). This ties up with a certain form of operational research in which the examination of methods of verification and evaluation of results is itself expressed in terms of efficiency and planning.

In addition, it is noticeable that with very often similar methods, taking into account the relative levels of importance of radio and television in the different countries concerned, work is undertaken in closely-related subjects. A study of the main directions taken by research in the different countries, combined with a detailed description of the methods (particularly with respect to the use of scientific techniques : collective interrogation stations, validation of matrices, electronic equipment for the mathematical processing of results, etc.) ought, on the basis of standardized documents, to enable exchanges of information to be made, leading to a sort of international economizing of effort.

Warren Seibert
Head, Instructional Media Research —
Purdue University, U.S.A.

IV,3 Methods of checking and evaluating results

On the subject of broadcast and materials evaluation, Commission IV heard presentations representing the work and the thinking of evaluation and research personnel in several countries, including Japan, Belgium, and the United States. Further comments were received reflecting developments in Niger and Britain.

From Japan, it was reported that several complementary methods are used for assessing learning, production procedures, and program acceptability. One of these methods is based on « model programs » or « audition programs » which are prepared in advance of a program series, then presented to students in order to diagnose the particular « model program », as well as to clarify the directions which later programs of the series should take. A second set of similar methods are less diagnostic of flaws in the individual program; instead, they are addressed to the broader interests and relevant abilities of the student audience, so that this information may be used in the planning of all programs in a series. Among these testing and evaluation methods, pre-broadcast surveys have been employed to ascertain the student abilities and/or interests which need to be recognized and developed, as have « auditions » of initial (or « pilot ») programs of a series, and moment-by-moment recording (obtained through use of special response recorder) of children's interest in or their understanding of program contents.

At times, audition post tests and interviews have been used to gauge student learning and in addition, systematic methods for gathering student opinions-preferences relating to programs that are under study are employed. In Japan, a search continues for general principles which are broad enough to guide the production of a range of educational programs.

In the report from Japan, reference was made to a 1964 report from N.H.K. authored by Isao Tsupi, and entitled : *The effect of television school broadcasts in isolated villages.*

One report from Belgium described the use of survey research methods in determining the size and composition of radio and television audiences and in determining also the consumer decisions that people make. Diaries of listening or viewing are recorded by members of a selected survey panel. A separate panel composed of persons younger than 18 years is employed for the special study of this audience. Normally, panels consist of 400 or 500 people, chosen to reflect proper proportions of males and females, rural and urban residents, different age groups, occupational levels, etc. After some earlier difficulties, survey methods have been developed also for the evaluation of teacher and pupil reactions to educational broadcasts.

It is also in Belgium that a pretesting of an instructional television broadcast was achieved on the whole of the French-speaking region of the country. On the basis of the results obtained for the pupils of the secondary courses (12-15 years) for which it was intended, this broadcast has been revised, transmitted and tested again. The aims were clearly defined and the means implemented to achieve them have been analysed. All the steps of the evaluation have aimed at creating a relation between the pupil's answers and the stimulus and sequences accurately located in the broadcast. Conceived in this particular framework, the structural analysis of the broadcast became the foundation of the questionnaire, of the regrouping and the codification of the answers as well as their processing on computer. The confrontation of the results between the first and second version gave the possibility to control that a simple process of vizualisation, together with the explanation of the vocabulary, gave to pupils, even to those who were mediocre, the possibility of a better understanding. This was obtained by isolating, by the word and by the image, the abstract notions of causality.

There is at least a moderate resemblance between the procedures reported from Japan and those described by U.S.A., representatives. In the U.S.A., increasing stress is placed on the *explicit* and *behavioral* statement of the teaching goals and on the modification of program material which is shown, in experimental trials, to be ineffective in achieving its teaching goals. In the U.S.A., increasing numbers of educators-producers are accepting the view that low or unsatisfactory levels of student learning signify failures of the teaching materials or the methods, rather than *student* failures. Thus, when such failures are found, corrections should be made on the materials and procedures employed. It was also stressed that materials production need not be seriously impeded by the use of systematic evaluation procedures. A particularly important step is to pre-test the appropriate student group (essentially as is done in Japan) and, thus, to determine the « intellectual inputs », or « input behaviors » of the students. The adoption of such pre-testing helps to ensure that the later instruction will be focused in those areas where student skill is most deficient, rather than allocating instructional time in areas where student competence may already be great.

The procedures which are finding increasing use in the United States are taken or adapted from the procedures which are a necessary part of developmental work in programmed instruction, although many elements of these procedures were in use before the advent of programmed instruction, which made its first substantial appearance in the latter part of the 1950's.

Questions were raised concerning the cross-cultural validity of the results from studies which have, as yet, only been conducted in one or a few cultured countries. On these questions, there are varying opinions, with some investigators feeling that safe generalization to new cultures may be undertaken, whereas others feel that cultural boundaries may not be so readily crossed. In any event, it was proposed, and seemed generally accepted, that the time has come for designing some investigations of broadcast education which could deal with common questions and could test these questions in several regions and cultures simultaneously and systematically. An extended statement of this proposal will very probably be developed before the close of the Conference. Finally, in comments made to Commission IV, it was noted that versatility of educational programs should be sought by means of special and versatile ancillary materials, rather than seeking to produce individual broadcasts which may serve varied purposes. Broadcasts are not flexible, but this utilization and the materials accompanying broadcasts may provide for flexibility and adjustment to reveal varied needs.

Mrs Hilde Himmelweit

Professor of Social Psychology — The London School of Economics and Political Science, United Kingdom

IV,24 Environment

This Conference's set of papers show the value of using film to familiarize the audience with the main theme of the talk. Professor Friedmann, opening the session, used a film to demonstrate the ways in which pupils and teachers relate school television to other means of learning and the extent to which their attitudes to school television are, in turn, influenced by their use of, and attitude to, general television. He developed the concept of « *École parallèle* ». Drawing on a study of the attitudes of teachers at present in progress at the « Centre d'Étude des Communications de Masse», he showed that, despite the fact that both types of television have functioned for many years in France, teachers still feel uneasy about the role that they should adopt towards this alternate school from which the children learn a great deal but which is not under the teacher's control. The absurdity of not reconciling oneself to this important outside influence and of failing to utilize it in the service of developing taste and critical awareness was brought home by Professor Friedmann and the lively discussion which followed. Screen education was seen as a partial remedy.

From a highly developed country with a well articulated educational structure (Mrs. Coppen's phrase), we passed to the problems of television when teaching groups whose mode of thinking was different from our own. M. Egly, speaking of the inhabitants of the bush in Niger, showed a film in which an anthropologist explains the customary precepts of the people, the difficulty of conveying abstract concepts, including geometrical ones, especially the concepts of the rectangle and the cube of which they have no representation in their everyday surroundings. Their huts are circular.

M. Ferenczi of France likewise used a film to show the problems which arise in trying to teach perspective to African immigrant workers unable to read, write or speak French. Both papers showed that research of a fundamental type had to precede the planning of instructional television if the material to be taught to the audience does not readily relate to their customary process of analysis and thought. This is especially so where language as a mediating and organizing tool is little used.

This last point was made strikingly by M. Afquarshe in his account of the difficulty of building up instructional broadcasting in Somalia. He brought out two important points not raised by the previous speakers, namely that too powerful a demand for education, when education is seen as a means of immediately increasing the individual's earning power, may stand in the way of teaching fundamental notions, *e. g.* arithmetic was seen as relevant, the idea of algebraic notions was not and therefore could not be taught. The second problem arises from the fact that Somali is spoken, not written, so that the broadcasters had to use Italian, Russian, English or French notations when recording Somali, the language in which broadcasting occurs.

The variety of languages used to record Somali reflected the multiplicity of educational systems to which the small groups of educated Somali have been exposed. This means that in planning courses they have very different personal experiences on which to draw. M. Afquarshe pointed to some of the consequences of being too successful in broadcasting, a comment which was echoed by many speakers drawing on experience in different countries, developing and developed. He showed that hygiene, the need for immunization, etc., could be taught effectively by radio but that such teaching could act as an irritant to the social order if no provision for the necessary tools and services existed, so that the audience could not in fact practise what they had been taught.

Mr. Takasaka of Japan showed another important facet of the impact of television in a comparative study of teaching fifth grades by television and by traditional means two courses, one of social studies and one of science. He showed not only that, compared with traditional methods of teaching, pupils learn more from television, but that there is a *spill-over effect* in that the general ability level of the pupils, especially those at the lower end of the scale, had been positively affected. This suggests that in an educationally narrow environment, with few facilities, poor teachers, few outside stimulating influences, television, by increasing interest, can under certain conditions improve the capacity for problem solving where this was artifically depressed through the conditions existing in the environment.

Research of a different kind was mentioned by Professor Tymowsky of Poland and M$^{\text{lle}}$ Lombard of France. Both showed the need for documenting the social and educational level as well as the motivations of the audience who view adult education programmes, some, as in Poland, designed to provide systematic training in high level technical skills, the others providing courses of a more general kind.

In the last few years, as a social psychologist, I have carried out a ten year follow-up study of the effect of school and home upon pupils' outlook and behaviour, not only while at school but extending beyond school into their adult life. This study showed the extent to which what happens in school has to be explained, not in terms of the teachers' and pupils' attitudes which they bring to school (although these matter, of course), but in terms of the role, the norms and expectations that society imposes on the school and to which it responds. Where a society, as is the case in England, uses the final school examination as a selection device for admission to higher education, the first priority of the school becomes adequate preparation for this examination. Under these conditions, innovation is less likely to happen than in a school system where the final examination has less long-term significance. It would be a mistake to infer from the reluctance to introduce new methods by teachers in school a general conservatism. This would be taking the symptoms for the cause. There are a number of important « structural » and « institutional » aspects of the school system which are relevant to a consideration of how television or other new teaching methods will be received. Of these, scarcity of teacher resources is the most obvious and the most frequently mentioned. Of equal importance is the relation of the teaching body to the Ministry and its degree of centralization or autonomy in curriculum choice, text-book selection and teaching methods. The French system is one of the most highly centralized. The English system is paradoxical. On the one hand, it is one of the most decentralized in that teachers are free to select books and use any method that they like. On the other, the pressure of examinations already referred to, introduces a uniformity since teachers have very little control over the syllabus related to the examinations.

We need to carry out a social psychological analysis of the organization, including the history of the school system and especially of its interaction with other important institutions in the society.

So far I have referred to the school system and its relation to the wider society as one of the factors influencing the way television will be received.

If we are to understand and predict how television might be used in a given society and use this knowledge to modify those forces which prevent its optimal utilization, the analysis must concern itself not only with the school as a social system, but also with the television organization itself, its history, its structure, its financial control, its relationship with the Ministry of Education, as well as the relationship organisationally and in time between general and educational television. In Israel, educational television came first; in England, France and the United States it followed general television. M. Friedmann's analysis has brought to the fore what differences this makes. The impact in Israel must be much greater than in the United States; in the former instructional television gains because it is compared with ordinary instruction. In the States it might well lose when compared in interest and quality of production with general television.

Even more crucial is the relation of the television service with the Ministry or the local education authority. In some areas in the United States, the television service belongs to the school system. It is financed, staffed and controlled by it. At the other extreme, you have the situation in England where the relation between the television and the educational service is a voluntary one and somewhat one-sided. For many years the television companies have been offering a glittering array of goods to somewhat reluctant customers. Much of the insistence in England in the early years on enrichment programmes rather than on straight instructional programmes stemmed from that relationship. The situation in Israel is somewhere in between; the Ministry decides the curriculum and appoints the teachers, yet, on the other hand, the financial control is vested in the Instructional Television Trust. Once this relationship is understood, the relative roles of producer and teacher fall into place; in England the dominant role is held by the producer; in some American centres by the teacher. Where instructional television might for the producer constitute the stepping stone to a more exciting post in general television, inevitably his first concern will be with production. This will not necessarily be so where the service belongs to the school. The best relationship is a half-way house of joint team-work which seems to develope best where the roles are least well defined. This, I know, is contrary to industrial practice but then a television service differs from an industry in that its central feature must be its flexibility as a means of adapting to new and changing conditions.

I suggest that a similar analysis is needed if we are to understand the role that social scientists have occupied in the television service and if we are to suggest what changes are needed to get some relevant and significant research done. The field so far is characterized by rather trivial enquiry, not because the research workers are not capable of better work but because they are not asked significant questions and are not given adequate conditions for work.

To be for research is to be with it, up to date and dynamic. Indeed, everyone in television is for research — as everyone is for education.

Once again, let us consider this in terms of ideal types. Full utilization of social enquiry of a sophisticated kind seems to be used in some developing countries. For instance, M. Egly described the work that the anthropologists are carrying out in the bush in Niger prior to developing suitable instructional programmes. They argue, and no one would disagree, that instruction can succeed only where it is geared to the pre-existing motivations, attitudes, ways of thinking and communication of the audience. That this needs to be done is self-evident where the cultural gulf is great, as in developing countries. That this is equally necessary in highly developed countries seems to have escaped the notice of many television administrators.

It is the exception rather than the rule for television services in highly developed countries to have fundamental research carried out into the attitudes, styles of thinking and use of language before setting up programmes aimed at informing and interesting an audience whose cultural and educational experiences are very different from their own. As a result, where research is carried out into the reception of programmes, the findings tend to be disappointing. Nor are the objectives of the course of educational programmes clearly defined. As a result we have the absurd situation that in a developing country the resources that social scientists can offer are properly utilized, in a developed country they are not, resulting often in trivial, piecemeal studies.

For this state of affairs, the main responsibility rests with the administrators. The administration tends to place three obstacles in the way of worth-while research :

1. money;
2. failure to indicate, especially to new producers in their training course, that enquiry is an essential tool at their disposal to be utilized to aid their work;
3. the role they assign the research worker in the organization.

In England and in the United States the social scientists do not sit in at planning sessions nor indeed do they work with producers from the inception of the programme. Because of this, no tradition is built up :

a. for the necessary spade-work to ensure the best fit between the content and the audience ;

b. for the producer to define his objectives, a first prerequisite in any teaching situation to ensure forceful presentation. A producer should traditionally write down the answer to this crucial question : What do you expect the audience to have learnt and why are you 100 % successful, 50 % successful, or only 25 % successful?

The power of television is great. Mr. Takasaka's study testifies to this. In a deprived environment, television, if effectively taught, can have a significant *spill-over* effect extending well beyond the subject-matter itself. He showed that television can have an effect on the child's capacity to abstract and to think, *i. e* affect his general intellectual ability. More studies on a broader front are needed to confirm this. If it were confirmed, it would be of great significance. Such a study was possible because good research workers had the opportunity and the resources to do a careful before and after study and — and this is extremely important — because the schools permitted assessment of the children's ability and of the climate of the school. In Israel, access to this information has not yet been given by the Ministry, despite the fact that television there is mounted as a specific educational experiment directed at culturally deprived groups. The need for access to the audience, the need, for before and after studies, and the need for research into fundamental questions relating to the way people of different ages and with different cultural and educational backgrounds process, retain and internalize information and communicate with others is only too clear. Our efforts need to be directed to create a climate where an administrator shares this view, feels the need to explain why such research is *not* done rather than takes pride in doing research altogether and where, jointly with him and with producers, an organisational structure is built up which permits the skills of the social scientists to be utilized. Such skills may, for instance, lie in the analysis for the administration of the likely strains that might develop between it and other institutions if the programmes teach well and so take preventive action early on. (Mr. Afquarshe gave an account of failure to do this in Somalia). Finally, universities and television must jointly encourage fundamental research into cognitive processes permitting television to be used as a tool of enquiry. We also need more and more imaginatively conducted studies which take in the whole learning situation of which television is only a part. The work in Israel is an attempt in this direction.

It follows that next time we need joint sessions between research and administration, research and production.

So far I have talked about the obligations of the administration if they are to use the social scientist in a more effective way. In turn, this imposes obligations on the social scientist :

1. to communicate more effectively, dejargonize his reports;
2. to accept the pressures, role expectations and norms of the producers and administrators as being as valid as his own.

I should like to create a situation in which the producer, the administrator and the social scientist learn to work together and, in so doing after the initial role strain that this produces, create a new and more appropriate organizational structure in which television can do a better job and utilize its financial and other resources more effectively than hitherto.

Max Egly
Co-director — Télévision scolaire du Niger,
Niger

IV,21 Visualization

The « visualization » group endeavoured to work in accordance with the definition of its terms of reference. Nine documents were presented. 23 people took an active part in the debates.

PRESENTATION

The « animateur » introduced the topic and recalled the definitions given in the terms of reference and in the index. He proposed to consider the word « visualization » in its wider sense of the putting into a visual form of various subject-matters. This raised no objection. Consequently, the work-group would have to give an important place to a type of researcher of whom little is said elsewhere : the producer. It is in fact at the level of the birth of a programme (conception and production) that problems of visualization appear, and it would be inconceivable to limit research to checking the effectiveness of techniques.

Considering the small number of systematic research-projects on this subject it behoves us to be modest.

PLAN OF DISCUSSION

The following plan was proposed, not so much as a programme of chronological procedure, but as a general guide which might clarify the debates.

1. *Examination of methods of visualization.*

These methods are always linked to technical supports. From the very beginning we must consider this aspect of the question, without, however, attaching too much importance to it. The majority of these techniques are known : some are very expensive, others more or less improvised; some are found also in the cinema, others only in television. In fact, the real problems of visualization are not so much problems of production as problems of conception. This answers a question which is often asked : « Which type of technique suits such-and-such a subject best? » At this point the « animateur » quoted different extracts from the papers presented by the participants which show the analogy of the questions raised on this point by programmes on natural history, geography and mathematics.

2. *A list of the various problems.*

The small amount of work done relating to visualization, the lack of precision of the terms, and the diversity of the experiments prohibit a rigorous classification. It was thus proposed to work according to the following plan :

— the artificial characteristics of pictures when used for teaching;
— the two trends in visualization : « didactic » action and action by « impregnation »;
— the use of figurative and non-figurative pictures;
— the various techniques of simplification;
— « pedagogic expressionism »;
— sound and rhythm as accompaniments to visualization.

3. *Research on visualization.*

It was proposed here to examine which types of research have been undertaken and on which subjects. It was also proposed to examine the conditions necessary for the improvement of this research.

4. *Communication.*

In this field also the question arises : « How to make known the results of research?» It was proposed to envisage various means, and to examine the possibilities offered by semiology both for research and for the communication of the results of research.

5. *Future prospects.*

All the authors of communications stressed that in the field of visualization, the essential research remained to be done. The newness of televisual ' signs ', the relationship between « entertainment » and « information », the need to question the methods of traditional teaching, all this leads us to imagine the appearance of a new form of teaching — « tele-teaching ». This would aim at « total didacticism » and, in addition, would integrate the aesthetic aspect, put in parenthesis at the beginning to facilitate discussion.

PROCEDURE OF THE MEETINGS

1. *General remarks.*

Contributions during the exposés and debates confirmed the ideas put forward in the various papers.

a. in general it was observed that « professional researchers » attach little importance to the problems of visualization. The preoccupations of psychologists, educationists and sociologists do not seem to lead naturally to these problems;

b. few texts on the subject exist. These texts are for the most part articles of relatively modest length;

c. research in this field is more often done by creative people (producers — artists — film-editors). In general, the creative people in television are « visually-orientated » and write very little. Their experience has, thus, little chance of being divulged;

d. most of these experiments are conducted within a non-experimental production. It is thus difficult to make them systematic. Inversely only a few laboratories undertake the manufacture of experimental films;

e. it seems that the usual vehicles of communication (articles and books) are not sufficient to give a satisfactory account of the various problems raised by visualization. It seems likely that audio-visual documents are necessary to do this.

2. *The first meeting.*

The first meeting was devoted, after the presentation of the general plan, to the examination of techniques. Two documents were presented : « Possibilities offered by a caption-stand » (France) and « Some techniques of visualization » (Niger), thus juxtaposing the possibilities of elaborate and simple equipment.

3. *The discussion.*

The discussion was continued during ***the second meeting*** and in order to use a concrete example as a basis, an experimental film was presented : « From left to right » (France), a documentary produced using the techniques of animation. The discussion turned on these techniques, which are both indispensable and expensive, and on the production of experimental prototypes. Stress was laid on the utility of testing not isolated prototypes but ***complete series*** of programmes.

Some participants considered that such a subject (lateralization) did not fall within the province of visualization, others that, in this particular case, it had been equally a question of verbalization. At this point the distinction between « visualizable » subjects dealing with concrete matters and « less » or « non- » visualizable subjects was recalled. The rapporteur referred to the small amount of research undertaken on this point.

4. *The third meeting.*

The third meeting presented very varied attempts at visualization : short sequences on « spelling » (France), on applied science (France) and on optics (C.E.T.O.). Reference was made to the problems of the use of letters, of the manufacture of special equipment, of the use of visual metaphors, and of the repetition of the same topic in various presentations. The Israeli delegate gave an account of the way in which certain difficulties raised by the teaching of mathematics had been overcome, by the use of a marionette. Furthermore, she recalled the important part played by music in Israeli school programmes.

5. *The fourth meeting.*

The fourth meeting suffered from the delay accumulated in the course of the lively discussions which preceded it. Two documents were presented : an attempt at the visualization of a lecture on literature for higher education (*Les Grenades* « The pomegranates », France) and an « audio-visual report » devoted to visualization, produced specially for the Conference by the research-group of O.C.O.R.A. The first document aimed at solving a small number of specific problems, the other gave a complete list of the various aspects of visualization.

An expose on the semiological approach in this field indicated both some lines of practical research (how to express oneself « with things ») and a method of theoretical investigation. It was stressed at this point that pictures used for teaching had up to now benefited much less from this study than those used for advertising.

This meeting ended on a reference to certain characteristics of the « tele-teaching » of the future. The speaker emphasized the inadequacy of present outlines of « tele-teaching » which are still based on the Aristotelian concept of container and content. He invited the participants to envisage new relationships between broadcasters and their public, between teachers and broadcasters, and between teachers and their pupils. He expressed the wish to see two new types of ‘ teacher ’. Those who give information « l'Informateur » and those who educate « le Formateur », and thus called for the ideas of « instruction » and « education » also to be re-defined.

Michel Tardy
Faculté des Lettres et Sciences humaines
de Strasbourg, France

IV,22/3 Motivation and participation

I. INTENTIONS

The Commission had the task of trying to answer the following four questions : 1. What are the main examples of motivation-techniques? 2. What is their necessity and effectiveness in relation to the subjects taught and the level of the audiences? 3. What are the different participation-techniques? 4. What are their variants in relation to the subjects and audiences?

Furthermore, the *Preliminary draft of an index* offered delegates these two provisional definitions :

a. Motivation : a combination of dynamic factors which determine the behaviour of an individual. By extension : the act of bringing into play the motivations which can induce someone to have the behaviour expected of him.

b. Participation : in its strongest sense, to participate is to bring an active, real and personal contribution to an action. But the word is often used in a weaker sense.

In relation to all this, the ‘ animateur ’ of the group thought it necessary to propose the three following objectives :

1. *Semantic aim.*

To arrive at a suitable definition of what is meant by motivation and participation. What are the various realities and processes covered by these two terms? What are the acceptations, sometimes very different, given to these two words?

2. *Technological aim.*

To draw up a list of motivation-techniques and a catalogue of the various types of participation; to supply the writers and producers of programmes with an orderly classification of techniques. This list, in order to be useful and realistic, should satisfy two requirements : *a*) it should mention the conditions and situations in which the various techniques could be used; *b*) it should indicate the degree of efficiency of the techniques listed; in other words, the list should be accompanied by a set of ' directions for use '.

3. *Future prospects.*

To define the general outline of a programme of research which could be accomplished in the interval between two conferences, and the results of which could be shown at the next meetings. Researchers cannot fail to be struck by the relative ignorance which surrounds the processes of motivation and participation. Programme producers, on the other hand, who are confronted every day with problems of motivation and participation, and who solve them often with ingenuity and empiricism, could put questions to the researchers. This Conference, in fact, could be the opportunity to arrange for people to meet.

II. THE DATA

The Commission's work was based on three sets of data :

1. *Oral Communications*

Mr V. Bachy (University of Louvain, Centre of Studies on Broadcasting Techniques) on *identification processes*; Mr K. K. R. Cripwell (University College of Rhodesia, Salisbury) on « *Motivation and participation in the teaching of adults by television* »; Mr E. Kösel (Wissenschaftliches Institut für Jugend- und Bildungsfragen in Film U. Fernsehen, Munich) on « *The psychology of expression in television programmes for schools* ».

2. *Presentations of documents with commentary.*

M^me^ D. Dreyfus (France) : *The teaching of philosophy on school television*; by M^lle^ H. Gantier (France) : *Motivating the study of a foreign language by television*; by M^me^ Charlier (France) : *An attempt to estimate the interest taken in television* *programmes by primary school children*; by Mr. G. Sandor (Hungary) : *School television and learning how to think*; by Mr. J. Rovan (France) : *Motivation and participation in some O.R.T.F. programmes.*

3. *Written communications.*

Mr A Breitholz (Sweden) : *Stimuli used in school programmes with a view to encouraging the pupils to make a personal effort*; Mr. I. Furlan (Yugoslavia) : *The different types of communication in teaching by radio and television*; M^me^ F. Govaerts (Belgium) : *Effectiveness of educational television and interactions of conceptual references*; Miss L. Graham (Canada) : *Pupil's participation in the televised language class;* M^lle^ Jacquinot (France) : *Some aspects of the problems of motivation and participation through a polyvalent programme.*

III. THE RESULTS

These may be divided into three categories :

A. The list of techniques.
B. The attempt at definition.
C. The formulation of problems.

A. *The List of techniques.*

It must be noted that this list is not exhaustive. Only those techniques which were mentioned at the Conference were taken into account. We thought it advisable to distinguish, each time, between, on one hand, *the content and aim* of the intervention, and, on the other hand, *the methods* applied each time.

Content and aim of the intervention	Methods applied in the intervention
1. INTERPELLATION (motivation formulated verbally, participation as consenting obedience)	
a. Give the pupils a *model* and ask them to reproduce it *immediately*. (words, phrases, songs, drawings, etc.)	1. *Verbal* instigation (imperative, second person) and *non-verbal* instigation (gestures, mime, and, especially, looks)
b. Propose an *exercise* and ask the pupils to do it (words for comprehension, dictations)	2. « *Personalization* » of the interpellation (each pupil has received a number and one of them sees himself called on by the television teacher)

c. Ask a *question* or state a *problem* and ask the pupils to answer *immediately*	3. *Variant :* (the pupil called on is designated by the first letter of his name)
d. State a *problem* and ask the pupils to *watch* the programme in order to be able to suggest a solution *after the programme*	4. Presence in the studio of pupils liable to be *called on in the same way* as the pupils in class
	5. *Variant :* the television teacher uses a collaborator (man, child, marionettes) who fails to solve the problem whereas the pupils in class succeed
	6. Competition between all the schools following the programme

2. INDIRECT ACTION

(implicit motivation, participation as unreasoned adherence)

e. Attract the attention of the pupil so that he *looks at* the screen	7. *Sound* or *musical* effects.
f. See to it that the pupil takes an interest in what he is looking at	8. Choice of *special subject-matter* (characters, animals, situations, current events, etc.)
	9. *Dramatization* of *abstract* subjects (*e.g.* rules of syntax presented in the form of « grammatical fables »)
	10. Technique of *visual presentation* of the subject (camera script, use of close-ups, especially of faces)
	11. Structural arrangement : *allusive narration*
	12. Structural arrangement : the narrative progression creates *expectation, suspense*
g. Make the *bearer of the message* (whoever it may be) become a *centre of reference*	13. Creation of complicity between the pupil and the television teacher or "animateur" : regular appearance of the latter
	14. Use of men "*of distinction*" (men of science, great contemporary philosophers)

15. Presentation of *unusual characters* (especially for programmes on foreign civilizations)

16. *Children* in the studio in situations similar to those of the pupils

17. Variant : presence *of children*

18. Use of *simulation*; a character in the programme is established (explicitly or not) as the *representative* of the pupils: he asks the questions which they would be supposed to ask

3. REVELATION

(motivation through example — participation as *successful conversation*)

h. Make the pupil *discover* that he is *capable* of doing something that he thought he was incapable of doing (reading philosophical texts)	19. « Living example » of pupils, almost unaided, and without preparation, succeeding in understanding a difficult text
i. Make pupils discover a *function they had not previously known* (*e.g.* the philosophical function of language)	20. « *Entertainment-value* » of seeing a philosopher philosophizing and of the new relationship established by television between man and his words

DETAILS OF UTILIZATION

Observation	7-9 years	France	f 8, f 10, f 11, g 13, g 17
Science	10 years	Hungary	c 4, c 5, d 1, g 16
Grammar	11 years	Hungary	c 6
History	10-12 years	France	f 12, g 18
Foreign languages	11-12 years	Canada	a 1, a 2, b 1, b 2
Foreign languages	11-12 years	Hungary	a 1, a 3, g 13
Foreign languages	11-12 years	Sweden	c 1, d 1, f 8, g 13
Foreign languages	11-12 years	France	a 1, c 1, e 7, f 9, g 13, g 15
Philosophy	16-18 years	France	g 14, h 19, i 20
Literacy teaching	adults	Rhodesia	a 2, b 2, e 7

B. *The attempt at definition.*

1. Motivation is the *source of energy* which makes an individual *act*; the motivation of the televiewer is the combination of dynamic elements which induce him to do things before, during or after the reception of a programme. The result is that televisual motivation-techniques must be considered as *external factors* capable of setting into motion an activity of which the energy potential is to be found *in the televiewer* and nowhere else. Motivation thus involves : *a*) *the mobilization* by the televiewer of a certain *quantity* of energy (mental or not, this is a question to be debated); *b*) the directing, the *canalization* of this energy into *the accomplishment of a given task.*

2. Among the televisual techniques capable of acting on the processes of motivation, we may distinguish, with Morgan Neu (1950) between *irrelevant* techniques, which have no direct connection with the subject-matter of the broadcast (sound effects or music, the content of which is not linked to that of the picture, metaphorical inserts, chromatic over-signalization techniques, etc.) and *relevant* techniques which consist of accentuating something which is already part of the picture (*e. g.* a close-up of an object or a face).

The phenomena of *participation* belong to the category of relevant techniques and they seem to have this double advantage over all others of being in perfect harmony, on one hand with the nature of the *relationship existing between the viewer and the televisual message*, and on the other, with the *aim of the pedagogic intervention.*

3. The idea of *participation* must be taken in its technical sense. Participation, strictly speaking, concerns two categories of psychological (and consequently, psycho-pedagogical) phenomena :

a. The phenomena of *empathy* or *posturo-motor induction.* These consist of slight movements accompanying what is happening on the screen. The reaction of the televiewer takes place at the cinaesthetic level and at the level of passage through the circuit of the nervous system. This phenomenon enables us to explain the types of behaviour which come under the heading of ' *sub-learning* ' (cf. Roshal, 1949). It may extend, in a secondary, mediate way, to the level of intellectualization.

b. The complementary phenomena of *projection* (« he is like me ») and *identification* (« I am like him »). The televiewer clings emotionally to the television performer; he lends him intentions, feelings, attributes (projection), and he borrows some of these things from him (identification). Subjectively, the barrier between the viewer and the television performer fades away. The importance of these phenomena on acquisition processes has been observed (cf. Kishler, 1950).

C. *The formulation of some problems.*

1. *Actualization and substitution :* in a pedagogic context, it is surely necessary to distinguish between : *a*) an *actualizing* motivation (passage from *latent* energy to *actualized* energy; in this case the emphasis is put on the *mobilization* of mental or physiological energy; the pupil being in a state of *energy-latency*, this potential energy must be made active, if only by getting him to take an active interest in the broadcast), — and : *b*) a *substituting* motivation (passage from energy *actualized in a given task A* to energy *actualized in a given task B*; in this case, the emphasis is put on the *canalization* of the energy; the pupil being engaged in carrying out prescribed tasks — connected or not with the broadcast — the mental energy must be diverted into the accomplishment *of another task.*

Now, from a pedagogic point of view, the second situation is surely more frequent than the first. Would it be rash to state that the child-televiewer is *always active*, that is to say, motivated, but that his motivations *do not always correspond* to those which the teacher would like to see him have? And is it not to this lack of co-ordination that the educationists have given the unfortunate name of passivity? If this be so, what should be sought are not so much activation-techniques as substitution-techniques. On this point, the work of Jack Edling (1963) may be consulted.

In the same way the pedagogic strategy of televisual motivation would thus consist more of *maintaining* than of *creating* motivation. We may presume that the pupil begins each broadcast with an initial favourable prejudice — unless the teaching method has already destroyed in him that confiding openness characteristic of the child who, for the first time, crosses the threshold of the school building. Thus, the pedagogy of motivation would be less a question of creating needs than, in the first place, of not *destroying those which already exist.*

2. *For a restrained use of motivation in teaching :* the problem arises at the level of *televisual technology* as well as at that of *educational aims.* It may happen that televisual motivation-techniques hide that of which they are only the means; the medium, used thoughtlessly, runs the risk of becoming its own end and it is in this connection that what may be called *motivational misfires* occur. Example : in a broadcast on a technical subject, a pretty girl in a bathing-costume appears. The technique is both so strong and so exterior that *it uses up all the motivation on its own behalf* : the process of motivation stops half-way : we look at the picture (and from this point of view the motivation has succeeded), but we do not look at what we were supposed to look at, except for the very ' specialized ' accompaniment to the subject to be transmitted (and from this point of view, the motivation has failed). By a classic swing of the pendulum we are replacing teaching based on *sanctions* by teaching based on *motivations.*

Motivation seems to have become the key-word in modern teaching-methods.

Now, are we not the victims of a new pedagogic mythology? Is it necessary, and desirable, to try always to motivate the pupils?

What we are trying to develop, in a somewhat cunning way, is *outer-motivation*, that is, motivation from the *exterior*. Ought we not, on the contrary, in television as elsewhere, to leave the field free to *inner-motivation*, which grows capriciously, but which we can, however, help to exist on condition that we do so on tiptoe? In fact, the pedagogic strategy of motivation ought to avoid giving in to the temptation called the *abusive rationalization — or even Taylorization* of teaching methods.

3. *Posturo-motor induction and its processes of conceptualization :* the phenomena of *empathy* (slight accompanying movements which not only favour but are the *condition of forms of sub-learning*) constitute one of the privileged domains of televisual motivation and participation. They enable us to arrive at a decisive criticism of the systems, by far too exclusively intellectual, by which it was thought possible to account for all pedagogic acquisitions. They draw attention to learning-processes in which the body and the emotions have the first place. Conceptualization has a part to play, of course, as S. F. Harby (1952) has shown with regard to « mental training », but this comes *later*. The change of perspective appears so radical that the phenomenon and its pedagogic implications deserve to be studied with the greatest care. On this point, the Conference might decide to commission research by various institutes and laboratories.

Posturo-motor induction, as a result of televisual activity, seems to occur every time that the pupil is required to learn systems of handwriting, forms of graphic representation, sequences of gestures (in one word, all activities having to do with an *ability*). What happens when we deal with broadcasts with a *purely conceptual* content, that is to say when the circuits of communication are established *independently* of posturo-motricity (as seems to be the case with broadcasts on literature, philosophy, economics or civics)? The problem of participation and the connected problem of motivation can only be formulated in new terms which ought in fact to be studied.

4. *The systems of reference of the public and the conditions for making participation effective :* it is not enough to study motivation and participation techniques; we must, furthermore, *know on whom* we wish to have an effect. This is why the study of the characteristics of the public is of primary importance. The particular illumination of an object is not enough; it must be educative for the public, for the public will not understand unless it can link the object to a pre-existing code of sensorial and conceptual references. These systems of reference delimit the *mental space* in which the processes of projection and identification take place (cf. M^{me} F. Govaert's documentation).

References of works quoted.

S. M. Roshal, « Effects of learner representation in film-mediated perceptual-motor learning », *Technical Report*, S.D.C. 269-7-5, 1949.

M. Neu, « The effects of attention-gaining lexices on film-mediated learning », *Technical Report*, S.D.C. 267-7-9, 21 p., 1950.

J. P. Kishler, « The effects of prestige and identification factors on attitudes restructuring and learning from sound films », *Technical Report*, S.D.C. 269-7-10, 1959, 11 p.

S. F. Harby, « Comparison of mental and physical practice on the learning of physical skills », *Technical Report*, S.D.C. 269-7-27, 1952.

G. Cohen-Séat, « Problèmes du cinéma et de l'information visuelle », P.U.F., 1961.

J. V. Edling, « A study of the effectiveness of audio-visual teaching materials when prepared according to the principles of motivational research », *Oregon State System of Higher Education*, 1963, 214 p.

Arthur A. Lumsdaine
Chairman, Department of Psychology
University of Washington, U.S.A.

I,28 and IV,3 Impact of « programmed learning » Methods on Educational Radio and Television

FIRST PART

Summary.

The essential and universally relevant features of the programmed learning (P.L.) concept were identified in contradistinction to narrower more specific features identified only with certain forms of individually paced learning. The great importance of certain P.L. concepts was recognized not only for programmed materials used as supplements to broadcasts, but also in the basic planning, development and improvement of the broadcasts themselves. The most powerful and important of these concepts consists of the application of empirical methods to the iterative tryout and improvement of a broadcast by presenting it in its initially developed form to samples of students who are then tested to ascertain the respects in which the programme, in its initial form, does attain its specific and predefined instructional aims and, even more usefully, those respects in which it fails to do so [1]. These data, pinpointing the actual, demonstrated strong and weaker points of the programme, are the best possible basis for determining those aspects of the broadcast programme which require revision and strengthening in order for the programme to truly (and

---

[1] The great importance of this has been previously recognized by several authorities, for example, in the 1962 report of the U.N.E.S.C.O. meeting of experts. This report stated : « Practical research should be incorporated into the development of all educational techniques in order to improve their quality and effectiveness. In partcular, it is urged that whenever new printed or audio-visual media are introduced into the educational process, these should be tried out in a practical local setting so that defects may be detected and remedied before full-scale production proceeds. » (U.N.E.S.C.O./ED/190; Paris, 3 rd April 1962, page 8).

demonstrably) achieve the aims for which it was designed. Normally, the programme should then be revised *at least* once, generally more than once, on the basis of such data, prior to general distribution [1]. Also, the data from such tryouts may be very useful to show what kinds of supplementary materials (*e. g.* exercises, work books, individual P.L. materials, etc.) it may be desirable to have for use in conjunction with the broadcast.

The use of such an empirical basis for revising and improving a programme requires, of course, that its educational aims have first been spelled out in such detail as to specify the kinds of test behaviour which will be taken as the criteria for deciding where the aims have been realized and where not. Doing this is of great importance *per se*, moreover, since only in this way can one ever have definitive evidence of the real success of any educational programme in contributing to defined educational objectives [2].

An additional way of incorporating certain specific features of P.L. techniques into educational television or radio teaching is to make provision for active participation through appropriate responses of the students, suitably guided and confirmed or corrected as needed, either during the broadcast itself, or at the end of a broadcast lesson or during breaks between segments of a broadcast.

Various techniques for broadcast programming and use of supplementary materials (verbal, pictorial, and/or manual-manipulative) were described for these purposes, and reports were presented on test data already obtained or planned for obtaining in future tests, in order to ascertain the effectiveness of such techniques and material. Reports of results and/or demonstrations of materials for these purposes were presented in these sessions by representatives from several countries, including Gropper (U.S.A.), Clopeau (France), Brunswic and Laborderie (France), and Futagami (Japan).

Explanation.

As basis for the discussion in the Joint Session of Commissions I and IV on Programmed learning Implications for educational television, etc., six major characteristics of the « P.L. » (« Programmed Learning ») concept were identified.

All of these basic aspects of P. L. stem from, and relate to, an emphasis on the *responses of students* as crucial elements both in their learning from a programme and as the only avenue through which a direct validation can possibly be made of the programme's effectiveness in actually attaining its educational aims. For the latter purpose (evaluation or validation of relevant programme effects), the required student responses must, of course, always be overt (*e. g.*, written or oral). For the former purpose (contribution to students' learning from the programme), proper elicitation of such overt responses may sometimes also be a demonstrably useful supplement to the students' covert mental or perceptual activity (though only, it is now apparent, under certain kinds of circumstances and with sophisticated response-elicitation and response-utilisation techniques).

---

[1] Evidence from well controlled experiments (by Gropper & Lumsdaine, 1961, at Woed, Pittsburgh) has been presented in another session of Commission IV, providing scientific evidence that programmes, thus revised, on the basis of such tryout data, were considerably more effective educationally than the original programmes, even when these were produced by expert and experienced educational television producers.

[2] As a guide to the rigorous discipline involved in spelling out such behavioural objectives with adequate precision, reference was made to the excellent book by Robert F. Mager, « Preparing Objtives for Programmed Instruction » (San Francisco, Fearon Publishers, 1962).

Of these six main features of *P.L.* just referred to, the first three were first emphasized, in the accounts of Pressey, Skinner and others, as special features of what we may distinguish here as « *I.P.L.* », or *individualized* programmed learning, implemented by so-called « teaching machines », « programmed texts », and the like. These include, more recently, various forms of « computer assisted instruction » (C.A.I.) in which both the rate and sequence of the learning material may be tailored to the needs and skills of the individual learner with almost infinite subtlety and variation, as is approximated by the highly skilled individual tutor. These three features are :

1. *frequent active responses* by each individual student, following on in the course of each relatively short segment (or « step » or « frame ») of each lesson in a programmed instructional sequence;

2. *prompt feedback* to each student based on the adequacy of each response he makes;

3. *individual adjustment of the rate* of the programme's progression (and also, in more sophisticated form such as C.A.I., of its *sequence*) in accordance with the students' responses, so as to pace (and perhaps otherwise tailor) the progression of the programme to each individual student's performance.

The three above characteristics are the features of « P.L. » or « P.I. » (programmed instruction) that have probably been made most familiar to the public as « the » identifying features of P.L. Nevertheless, they are less general, and may often be less important, than three other features which also stem from attention to students' responses. These other three, more generally important, features are :

a. Behavioural Objectives : the precise definition of the goals or objectives of a programme, in terms of specified kinds of student responses, or behaviour, that would fully exemplify the attainment of these goals.

b. Task Analysis as a basis for programme development : the analysis of the task that faces the teacher-programmer, in terms of *precisely* what things the student must learn, and in what order, in order to move to the terminal goal from his initial repertoire of behaviour. The essential *first step* in this analysis is to ascertain, *in detail*, the initial knowledge, attitudes and other behaviour of the students, since this must form the starting point from which any effective instruction will have to proceed. This step must procede the further steps of developing a plan, or programme, for moving the student from his initial level of behaviour to the objective level specified as the goal of the programme.

c. *Empirical Tryout and Revision :* the third and crucial element of the P.L. rationale is to try out the initial version of the programme, so as to use the responses of students to the initial version as a basis for revising and improving. After one or more iterations of this empirical tryout revision cycle, data on what students learn from the final version provides a description of the functional characteristics of the programme in terms of what it can *do*. These second three features (a), (b) and (c) are not only more essential and central to the P.L. concept than are the more commonly named first three features (1, 2, and 3) but also they are just as fully applicable to broadcast instructional programmes (television or radio) as to individual learning programmes (I.P.L.).

Recommendations.

Two recommendations are made. *The first of these is the most important :*

1. Three more general features of the programmed learning concept should be incorporated into the development of all educational programmes for television and radio broadcast to the maximum extent possible, in order to increase the demonstrable effectiveness of these broadcasts. These must be provided for in initial programme planning. They include :

a. the detailed specification of *behavioural objectives*;

b. the analysis of the learning tasks based on research for *delineating initial characteristics of the learner*; and particularly

c. the *empirical tryout* of the programme, followed by revision based on test data which show the extent to which the specified objectives have or have not actually been attained.

2. Other more specific features of programmed learning can also be considered for use in educational broadcast programmes. Two of these features are to provide for frequent and appropriate student response during the programme, and to give confirmation or correction of these responses. These features can sometimes be helpfully incorporated into the broadcast itself, or can be utilized in supplemental exercises or materials used in conjunction with it. The third feature, individually tailored pacing or sequencing to accommodate to students' individual needs, can of course be used only in the supplemental procedures, not in the broadcasts themselves.

George Gropper
Program Director, Instructional Media Studies,
American Institute for Research, U.S.A.

I,28 and IV,3 Impact of « programmed learning » Methods on Educational Radio and Television

SECOND PART

Some additional observations and conclusions can be derived from some later experiments performed at the American Institute for Research.

This session is concerned with an identification of special methods for evaluating the results of instructional television. The topic implies that television should somehow be different from other media. However, evaluation methods applicable to other media are in fact equally applicable to television. Television's evaluation requirements need not be considered different from that of other media.

Before I discuss methods for evaluating instructional results, I would like to discuss some issues that bear on what the proper role of instructional television is. For, unless instructional television is used for the purposes it can serve best, it cannot, from the outset, be expected to attain optimal instructional results.

In recent years a fairly detailed instructional technology has evolved. It is most closely identified with programmed instruction, but is not restricted to it. Most generally based on response-oriented learning theories, it has attempted to specify the steps to be followed in the preparation of instructional sequences. Following each of these steps is a requirement for instructional television just as it is for other media.

All of the steps should be carried out for materials prepared for any medium including instructional television. The mechanics of doing so may be different for each medium but the requirements are not.

At what point, if any, should instructional television be different from other media?

It is appropriate to consider television's distinctive capabilities and to differentiate these capabilities from those of other media when instructional strategies are being formulated. The television medium may be chosen over another medium when it more aptly meets the requirements determined by instructional strategies. It is not the capabilities of the medium, *per se*, that determine its choice. It is the instructional requirements determined by the type of learning tasks involved and the strategy for faciliting them that determine the choice of media.

What are some of the requirements media must meet? A medium is appropriately selected when it has the capacity of displaying the stimulus materials that are an integral part of the subject-matter. To take some very obvious examples, if we are teaching a music appreciation course in which we want students to be able to recognize the style of music being played, we require a medium with audio capabilities. On the other hand, if we are teaching a course in art appreciation in which we want students to be able to recognize the style represented in a particular painting, a medium with visual capabilities is required.

Thus, media can be selected because of their capability of presenting or displaying stimuli that are integral to a subject-matter. For example, experiments are an integral part of physics. A live demonstration, or one on film or television can present such demonstrations. Secondly, media are selected if they can implement an instructional strategy. The decision as to whether to use demonstrations depends on the learner's learning task and the strategy you formulate to facilitate this task. If you want him to learn how to perform experiments himself, you might decide to show him — visually — how to perform them.

On the other hand, if you wish him to learn the principles exemplified by the experiment, a reasonable case could be made for textual materials about the principle and the experiments that support it. The choice of a medium, thus, quite obviously influences the kind of learning experience the learner will undergo. Thus, a primary task of the educator is to devise a type of learning experience that will promote a specific kind of learning task.

Media are thus chosen because of their capability of meeting stimulus display requirements. They must also be chosen for their capability of controlling the conditions under which stimulus materials are displayed. Here again, the type of learning task, the strategy devised for it play a role.

One key learning condition, at least for a response-oriented educator, for which media must have a capability, is that of response practice. Many response-oriented learning theorists take the position that the student learns only what he practises. Thus, provision must be made for students to respond, practise, or participate (any of the words will do). He must practise, or participate in the responses we wish him to learn and he must practise them in the presence of the appropriate stimuli. The instructional medium must, therefore, in addition to its display capabilities, have a response-practise capability.

There is sufficient research evidence to support the feasibility of providing opportunities for response-practice even with a fixed-pace medium like television. The evidence, I may say parenthetically, supports the requirements of active responding during televised lessons rather than allowing the customary passive viewing.

There are two general points I would like to stress today. One, the point I have just discussed, is that to insure adequate instructional results in television requires that the decision to use television for particular subject-matters should, in the first instance, be made on the basis of very explicit criteria. Only when a medium is chosen appropriately can you expect optimum results.

The second general point concerns how results, once thev have been obtained, can be checked. Again, if one is partial to response-oriented learning theories, it is the student himself that provides the ultimate criterion. It is student response that is the appropriate criterion of lesson effectiveness. No matter how wise and judicious an educator may be in following all the steps referred to earlier, he cannot rest on his laurels. While he is more likely to have produced an effective instructional sequence if he systematically followed the steps, he can never be sure until student performance itself convinces him of it. Merely having followed the steps is not enough. Reviewing the instructional stimulus materials is not enough. Ultimately it is only student response to the materials that can tell us.

It is conventional, of course, to check student responses by means of criterion tests. Properly constructed, tests provide useful feedback as to the adequacy of a lesson and identify portions of lessons that require revision. Lumsdaine and I experimentally demonstrated in 1961 the value of tryout and revision. In that study we used conventional achievement tests to identify points in a lesson that were not well understood or not understood at all. We revised the lesson and then, once again with test results, compared the effectiveness of the two versions. Needless to say, the revised version proved superior.

In a more recent study, I have used more systematic means to identify lesson weaknesses. Test items were used that were specifically designed to measure identifiable kinds of learning failures. A student cannot transfer what he has learned to appropriate, new situations if he has not retained or remembered it to begin with. He cannot remember it, if he failed in the first instance to identify what he was supposed to learn. These are three types of learning failures that occur. By developing test items that measure each, it is possible to pinpoint lesson inadequacies.

This approach involves end-of-course or end-of-lesson testing. From programmed instruction we have learned that the student can also be tested throughout the lesson. In using programmed materials students are required to respond repeatedly throughout the course of an entire lesson. For response-oriented learning theorists, the primary purpose of the response requirement is not to test the student. The student is required to respond because that is the only way be can be expected to learn. This is not to say that we cannot use his responses to test the adequacy of our materials.

To speak of the availability of an instructional technology that can tell us how to prepare lessons but that also tells us that we have to undergo the laborious and costly practice of tryout and revision may appear paradoxical. Either a technology, by definition, can tell us how to do our job or it cannot. I believe the technology can tell us how and I think we ought to follow its maxims. If we do, we can reduce the amount of revision following tryout that will be necessary; but tryout itself is always necessary. No matter how expert an educator may be, he cannot simply look at a lesson and decide that it is good or bad. Only on the basis of student responses can that decision be made.

Maurice Fauquet
Deputy rapporteur of the Commission

General survey : Opposing or complementary aspects of the various tendencies of audio-visual research?

The aim of this general survey is not to sum up the work done by Commission IV. This has already been done admirably in the 'animateurs' reports on the various topics under study. However, it seemed worth while — taking these reports and the notes made by rapporteurs during work sessions as a basis — to try to outline the main currents of our work. We should thus be able to clarify the meaning of pedagogic research in the field of Educational Radio and Television.

After Rome and Tokyo, the E.B.U. chose Paris for its « Third International Conference on Educational Radio and Television ». As the tradition, well established since Rome, has been respected, we are entitled to believe and say that the Paris Conference presents a comprehensive and significant account of educational audio-visual production in 1967 on a world-wide scale.

In the light of past experience the International Organizing Committee decided to go further still, as this framework though certainly vast is in fact very limited. If we try to answer the question « Quid facti ? » we find we obtain a list of facts which give the dimensions of the educational audio-visual concept at a given time. However, we should still ask the next question « Quid juris? » which will enable us to understand this concept better by describing its historical development and so help us to clarify its meaning. The necessity to think seriously about these matters became obvious by the end of the Tokyo Conference, but this necessity was not immediately accepted by all. When R. Lefranc reported on the work done by Commission IV in a special issue of the E.B.U. Review in November 1966, he noted « a certain mistrust towards research work which is nearly always carried out outside the framework of Educational Radio and Television Organizations by academics who have no experience of production ». He later specifies that : « the Conference will endeavour to overcome this situation by adopting at the outset a practical attitude and by refusing to consider research on its own... » As it seemed that the meaning of the word « research » might give rise to a certain ambiguity, the preamble of the mandatory text entrusts Commission IV with « Support Tasks » and this Commission is appointed to be the « auxiliary » of the other three. In point of fact, there is no ambiguity about what research is... as far as the researchers are concerned! This ambiguity only arises from the fact that participants have widely differing preoccupations. The requirements of active production and the highly respectable urgency of educational action, which is quite rightly concerned with overcoming illiteracy are both ill-suited to the devious ways of research. However, this type of pragmatism may lead in the long run to serious disillusionment. It is to be feared that the great poverty of pedagogy comes from its being reduced to the role of a pedagogy of poverty. This is not the place to dwell any longer on this delicate problem. A factual argument will be quite sufficient : the experiment carried out by M. Egly in Niger shows that research need by no means be incompatible with the wish to be of use. On the contrary this case rather tends to illustrate a statement made by the President of the International Organizing Committee : « We must now aspire to go beyond the practical and descriptive phase of our previous Conferences... *A systematic and normative study of Educational Radio and Television must dominate the work done in the Seminar of this Conference.* »

In spite of these setbacks research was admitted to the Conference. And so the broadcasters found themselves face-to-face with researchers, mostly academics. The fact that participants attended the sessions of Commission IV regularly (an average of 60 to 100) testifies to the interest aroused by the Commission's work. This is a sign of our times : the meeting of professionals and researchers — an essential condition of progress in educational radio and television.

By analysing the work done by the Commission, we see that for each topic dealt with results were undoubtedly extremely rich. But if we look at them as a whole and if we examine the development of the discussions we notice a significant shift of the centre of interest. The exemplary courtesy of the discussions allows us to note certain basic oppositions which make wholesome food for thought. The word itself — « research » — has undergone a semantic shift. On the one hand, from the point of view of the psychology of learning, the emphasis is now put on the evaluation of results and the acquisition of knowledge : audio-visual techniques are used as communication media, in many cases in order to meet urgent needs (such as teaching literacy). On the other hand, in the tradition of humanistic education, the emphasis is put on the specific modes of expression of the audio-visual process, considered as means of intellectual training.

This opposition is easily explained. Work began with the study of the topic « Methods of checking and evaluating results ». The American advance in this field is considerable and it is hardly surprising to see Gropper, Lumsdaine and Seibert stress this aspect of research almost to the exclusion of any other. Paradoxically, this requirement — though pragmatical — is not wholeheartedly approved by the broadcasters themselves who, preoccupied as they are by the urgency and restrictions of production, find it difficult to spare the time — sometimes considerable —required to carry out evaluations which are seldom significant. There is no doubt that everybody will agree with this statement made by Lumsdaine : « The most powerful and important of these concepts consists of the application of empirical methods to the iterative tryout and improvement of a broadcast by presenting it in its initially developed form to samples of students who are then tested to ascertain the respects in which the programme, in its initial form, does attain its specific and predefined instructional aims and, even more usefully, those respects in which it fails to do so. » But this interest in evaluating does not exempt us from the obligation of asking other questions. Taken as a whole the concept of evaluation is convenient, but it risks being invalid outside a specific field of application. Therefore Lumsdaine deals with the concept from a very special point of view, that of « the influence of programmed instructional methods in Educational Radio and Television ». By implication, this comes back to basing educational action on psychological theories of learning. This point of view is unquestionably fruitful and it has helped to awake pedagogy in general from its dogmatic sleep. However, it would be rather rash to reduce pedagogic action to its psychological basis and the latter to theories of learning. To sum up briefly, the history of conditioning and learning theories is significant : the S-R type schema symbolizing the more or less mechanistic and elementarist conception of the first generation of behaviourist psychologists grew gradually more complicated and was transformed into an S.O.R. schema (O. being the organism in relation to S.)[1], or into an S.M.R. schema (M. being the mental mediation of the subject)[2]. The history of the studies made on mass communications shows the same evolution. In a similar line of thought J. T. Klapper observes that mass media are no longer considered as being the sufficient and necessary causes of the effects that are supposed to come from them, but rather as being « influences acting amongst other influences in a total situation[3] ». In short, it is more accurate to talk of the influence than of the action of audio-visual techniques. Also evaluation problems become more complicated in proportion to the various variables involved. And all the more so as our purpose is to determine the specific contribution of the audio-visual process. Some people were surprised that so little was said during the seminar about the specific nature of this contribution. It is true Gropper mentioned this point. « This session is concerned with an identification of special methods for evaluating the results of instructional television », but he goes on to bypass it : « The topic implies that television should somehow be different from other media. However, evaluation methods applicable to other media are in fact equally applicable to television. *Television's evaluation requirements need not be considered different from that of other media.* » It is worth stating once more that methodological rigour is a requirement that should be applied in every case, but it does seem rather hasty to draw the conclusion that all evaluation methods are identical. Gropper recognizes that the specificity of the media is linked to the subject-matter of the stimulus, itself an integral part of the subject taught. He gives two examples to illustrate this point : the use of audio-techniques of sound to teach pupils how to identify a musical style, the use of visual techniques to introduce pupils to pictorial styles. However, he does not go so far as to recognize that evaluation methods are as specific as technical media : « The mechanics of doing so may be different for each medium, but the requirements are not. » Can we really be so sure that only technical media are specific in nature? Let us consider Laswell's formulation of the problem : « Who says what, through which channels of communication, to whom and with what results? » This brings out clearly the problem of efficiency in relation to means of communication, but also in relation to the concept « Who says what? » « What » refers back to the content of the message. But « who » cannot simply be put in brackets : it certainly expresses aims which are sometimes explicit or more often implicit. In a word, a message has not only content, but also, simultaneously and in close connection, a *structure*. The nature of the structure depends on the technique, that is on the medium used, but it can also be designed in an original way so as to meet the demands of a specific mode of expression. The « pedagogical way » cannot simply be reduced to the « technical way ». Lumsdaine is right to remind us that improving a programme does not mean making it more pleasing aesthetically but taking care that pupils learn better. Or, more precisely, modes of expression are not exclusively aesthetic problems. Lumsdaine is well aware of this. He notes, in fact, that evaluation is generally applied to the acquisition of factual knowledge... when it would be more to the point to probe further into the factors involved in the learning process and even into the way of training students to learn to think. We can no longer evade the problem of how a message is conceived. Without going into the fundamentals of the problem — this is not the place — we can nevertheless illustrate it. Taking as a basis the psychology of learning processes and the techniques of programmed learning, it seems quite clear that evaluation consists mainly of measuring the results obtained in relation to aims predetermined and well-defined in terms of knowledge to be acquired step by step. But it is not obvious that the whole of intellectual activity simply amounts to this process of acquisition. It is well known that some psychologists believe that it is just as important — if not more so — to master certain structures. Reliable specialists of programmed learning are trying to design programmes in the spirit of Gestalt psychology — being convinced, rightly or wrongly, that the process of acquiring knowledge does not proceed from the part to the whole. Some audio-visual specialists believe that the structural analysis of audio-visual messages is essential to obtain more precise evaluation of effects. We hope these two examples have given an idea of the complexity of the problem. Even if these questions do imply expensive consequences and temporary delays, this is not a good enough reason for bypassing them. Quite the contrary; for a researcher they represent the basic requirement. The experimental attitude does not consist in checking only one psychological hypothesis, it means systematically investigating a field of action. More than a medium for transmitting information, audio-visual techniques could become a massive means of investigation, a powerful detector of the differentiated manifestations of the human mind. Thus, the naïve belief that the picture is a universal medium of communication was questioned during the first work sessions on methods of evaluating and checking results. As Seibert remarked : « It was proposed and seemed generally accepted that the time has come for designing some investigations of broadcast education which could deal with common questions and could *test these questions in several regions and cultures simultaneously and systematically.* »

---

[1] M. A. Fessard, H. Gastaud, G. de Montpellier, H. Pieron: *Le conditionnement et l'apprentissage*, Paris, P.U.F., 1964.

[2] C. E. Osgood, G. Suci, P. Tannenbaum : *The logic of semantic differentiation, in Psycholinguistics*, New York, 1961.

[3] J. T. Klapper : *The effect of Mass Communication*, The Free Press, Glencoe, Illinois, 1960.

The study of the theme « Environment », directed in a masterly manner by Mrs Himmelweit clearly showed how important this problem is. In an oral contribution, Lumsdaine pointed out that the part played by the researcher in educational matters generally goes unrecognized, and put forward an insidious question : « Why are we — specialists in communication — unable to communicate? » Audio-visual specialists — and the E.B.U. Conference is a fresh proof of this — are prone to accuse so-called traditional teachers of being conservative. Mrs Himmelweit aptly remarked that : « It would be a mistake to infer from the reluctance to introduce new methods by teachers in school a general conservatism. *This would be taking the symptom for the cause.* » This reluctance comes from the nature of the relationship existing between educational television and general television in a given society. In spite of the relative lack of teachers in highly-developed countries, there can be no doubt that institutional structures and pedagogic methods have proved their worth, and it would be presumptuous to pretend that all teachers are retrograde and irresponsible. The commendable, but often excessive, claim of general television to be more efficient in educational matters than teachers, does not make the dialogue any easier. The result is a certain segregation between producers, teachers and researchers, a segregation which can only hinder the progress of Educational Radio and Television. Making a discreet and courteous reference to her difficulties with B.B.C. staff, Mrs Himmelweit regretted that researchers are all too often called in a posteriori. They are supposed to be equipped with universal evaluation methods and the only problem seems to be, in the United States as in Great Britain or in France, how can we make use of them to check what we have done. « The field so far is characterized by *rather trivial enquiry,* not because the research workers are not capable of better work but because *they are not asked significant questions and are not given adequate conditions for work.* » In general, participants felt the need to give more and more importance to fundamental research. « Both papers showed that research of a fundamental type had to precede the planning of instructional T.V. if the material to be taught to the audience does not readily relate to the customary process of analysis and thought. » The experimental situation, so precious to reseachers, presented by the developing countries, spotlights this requirement for fundamental research. The examples quoted by Mrs Himmelweit prove this beyond doubt. Though less obvious at first sight, this point is also true of the so-called developed countries. Lumsdaine recalled the mistake made in the United States with the film « Why are we fighting? » which had a boomerang effect quite opposite to the aim sought after. Thus, paradoxically, in comparison with the non-literate countries (example : Niger) in comparison with the countries in which educational television was put into operation before general television with an organized research team conscious of the problems (example : Israel), the so-called developed countries are losing ground as far as research is concerned. « It is the exception rather than the rule for television services in highly developed countries to have fundamental research carried out into the attitudes, styles of thinking and use of language before setting up programmes aimed at informing and interesting an audience whose cultural and educational experiences are very different from their own. As a result *where research is carried out into the reception of programmes, the findings tend to be disappointing.* » Thus we find ourselves in the absurd situation described here : « In a developing country the resources that social scientists can offer are properly utilized, in a developed country they are not, resulting often in *trivial, piecemeal studies.* »

The preceding considerations confirm the point that research is not only a matter of reception, nor, more particularly, a matter of evaluation, but primarily and basically it is a matter of conceiving the messages themselves. In view of the real aim of research, we have to examine messages as such so as to consider them as objects of analysis. The study of viewers' reactions to a given message certainly constitutes an important sector of investigation — for which research reports can supply a large amount of results. But audience reactions to the final if not finished product which we fall back on all too often are not the whole of research. In fact, it merely represents the secondary aspect. It often comes first for purely pragmatic reasons : to meet consumers' wishes on a commercial level or — on a somewhat higher level — to ensure feedback in the shortest time so as to enable the progressive adjustment of a series of programmes. (This is the case, among others, of School Radio and Television.) The real spirit of research, without denying the reality of the needs we have just mentioned, must be located, more fundamentally at the level of conception. A researcher is enriched as much by the critical analysis of the origin of the product as by the effectiveness of the finished product. Considering audio-visual techniques as means of research and experimentation involves making a break with acquired mental habits and obliges us to rethink the problem of how to handle signs and symbols. A characteristic feature of our times is our obsession with the reduction of signs to their mere informational function, at the expense of their stimulative or creative functions. We must hope that thanks to iconic invention original questions will be asked. Otherwise how can so far unknown virtual concepts emerge when it is sometimes gratuitously asserted that these concepts are specifically audio-visual? Such an attitude makes it necessary to produce trial sequences in order to test them. Here is the fundamental stage of research. Evaluation comes later and then assumes its full meaning.

By considering the problem in this light we are in fact underlining the fact that it is far from solved. It will no doubt be said that we are confusing the issue. However, we believe that the Cartesian habit of critical doubt is still the only really scientific approach in the search for truth. It implies, on a methodological level, that we recognize our temporary ignorance. This point is proved beyond doubt by the research done on « Visualization ». Right at the beginning of his account of the work sessions, M. Egly notes that : « Considering the small number of systematic research projects on this subject, it behoves us to be *modest*. This state of affairs does not make it any easier to approach this problem. The small amount of work done relating to visualization, the lack of precision of the terms and the diversity of the experiments prohibit a rigorous classification. » The cure is obvious : « A type of researcher little mentioned elsewhere should be allowed to play a large part in this field : we are thinking of the *producer*. » M. Egly also speaks out against a too narrow conception of research. « It is in fact at the level of the birth of a programme that problems of visualization appear, and it would be inconceivable to limit research to the checking effectiveness of techniques. » In the present state of audio-visual research a whole group of researchers are rebelling against « the numerical myth ». They do not seem to be obsessed by the need for measurement standards, but claim their right to creative imagination, to pictorial invention in order to conceive original messages. M. Tardy and I have insisted on the importance of taking into account both semiological and linguistic factors and of studying them in conjunction. This is essential if one wishes to create well thought-out and valid messages. M. Egly, a specialist on this matter, quite agrees with this : « The real problems of visualization are not so much problems of production as problems of conception. This disposes of a question which is often asked : Which type of technique suits such-and-such a subject best? » Over and above the specific nature of the medium used, the mode of expression tends to assert its specific nature with greater strength. An interesting fact is that many producers and directors feel equally concerned by these problems and admit readily that everything remains to be done in this field. But we may note with pleasure that this interest does not stay on a theoretical or utopic level : actual experiments carried out prove that well-informed researchers, assisted by experienced teachers, can no longer evade the problems of fundamental research. Let me give you two examples corresponding to two quite different situations, the first one to a developing country and the other to a developed country. The work done in Niger was undertaken to meet « a practical obligation » : *visualization before verbalization*, as television teaching in Niger is aimed at children who do not know the language spoken by the commentator. For these pupils what is entirely new is the commentary. *Therefore the responsibility of carrying the meaning falls on the picture.* Now M. Egly also remarks that if an appreciable number of studies have been made on still-pictures *the study of televisual pictures is to a large extent unknown territory.* This explains why few answers have been given so far to the general question : How can the effects of visualization be evaluated accurately? In a written communication M^{lle} Noubel says that : « Our attitude of mind is thus made up above all of *imagination*. We cannot mechanically implant programming into the audio-visual process, just by cleverly putting together pre-existing elements. Firmly holding both ends of the chain we must *invent new forms*. » So true it is that, in the words of M^{me} Dreyfus, « by establishing a new set of signs television has opened up a new field where the link between signifier and signified has still to be completely *created* », which amounts to « admitting », like P. Schaeffer, « the *specificity* of the audio-visual information process ». Thus, the study of the subject « visualization » explodes the opposition mentioned at the beginning of this report. The audio-visual researcher is apparently not just a psycho-sociologist called in to evaluate results. He must also be an intelligent and sensitive teacher and even an authentic artist. Are we saying that we should limit ourselves to this opposition? Certainly not! However, from a methodological point of view it would have been clumsy not to mention it. And participants quite agreed not to be satisfied with it. Those in favour of measurement did not fail to praise the quality and originality of certain prototype productions. On the other hand, the advocates of creative research — not wishing to be accused of indulging in gratuitous exercises — all recognized the need to submit these prototype programmes to experimentation, as for example M^{lle} Noubel : « The absolute priority given to production with all that entails in the way of inventiveness, fantasy and surprises, does not exclude — in any way whatsoever — a rigorous study of its effectiveness nor a critical analysis of the forms invented. » A vigorous defence of creative imagination in researchers is not incompatible with understanding of the need for evaluation. For in spite of the reservations made above against an over-optimistic, or even naïve, view of the requirements of measurement, the fact remains that we must agree with Gropper when he says : « No matter how expert an educator may be, he cannot simply look at a lesson and decide that it is good or bad. Only on the basis of student responses can that decision be made. » Finally and to take up two expressions used by participants at this seminar, audio-visual research — without subscribing to « the numerical myth » — must beware of falling into the esotericism of « par-

lour games ». To answer this need for a happy medium the wish was expressed that original documents, specifically designed for experimentation, should be prepared for the next conference. *In this way two conceptions, or rather, two complementary aspects of research could be combined.*

It is to be feared that the foregoing considerations may cause some disappointment to broadcasters who are eager to detect new processes of production in the researchers' store — with the secret hope of thus guaranteeing the quality of their work. There is no need to overdo things. As the majority of researchers admit that everything remains to be done in this field, good note should be taken of their modesty without trying to force their hands. Scientific honesty means that we must clearly separate what is certain, which can be of immediate benefit as far as production is concerned, from what is only probable, which — if due caution is taken — can be used in research. Broadcasters, who are always pressed for time and handicapped by the financial problems of production, consider that the devious ways of research are a pointless luxury. This attitude, although arguable, might be justified as far as commercial television is concerned. It is unthinkable with regard to educational television. A producer pointed out that he was so busy with his work that he had little time to spare for reading or bothering about trifling questions. This is undoubtedly a great pity in the context of educational radio and television. To be content to mechanically apply techniques simply results in reducing the act of educating to a mere act of instructing and in considering the latter as being just a transmission of information. In fact, in spite of the revolutionary claims of the apostles of the audio-visual movement, this amounts to a return to the most traditional didacticism. Inversely, it would be just as regrettable if the researcher were to shut himself up in his laboratory. The work done by Commission IV shows how necessary collaboration is. Producers and directors should accept that experimental productions are needed to clarify problems set by researchers. The latter should try to convey to the former the results achieved by research. Even if this seminar does not appear to have borne any fruit for the time being, nevertheless the problem was clearly formulated and the wish was expressed that the conditions of a vital and close collaboration should be established as quickly as possible. M. Tardy's report on « Motivation and Participation » partly answers this aim. His first purpose was to give a list of techniques for the benefit of producers and directors; he then went on to reflect on how to express various problems related to motivation and participation. This is precisely what should be done for future E.B.U. conferences, with the double purpose of keeping producers and directors informed about the results obtained and of making them aware of certain controversial questions.

To conclude, we may say that the work done by Commission IV stressed the need for more sustained and organic exchanges between the various sectors concerned with educational radio and television. From the many conclusions given and practical recommendations made — which can be read elsewhere in extenso — there are three

which seem to answer almost exactly the questions we have just been raising :

1. A work-group concerned with « *Terminology* » has prepared a vocabulary with a French-English equivalence table of the principal terms used in connection with educational radio and television. This work will be pursued in view of the next conference ;

2. Another work-group made a list of research work in progress. But more important still it discussed the criteria to be retained and the forms to be adopted in order to *standardize research publications* so that information exchanged should be more homogeneous;

3. Finally, the urgent need for a *better coordination of educational radio and television activities* was examined. With this aim in mind it became clear that the researcher must be integrated into production teams, as it is only through a perfect understanding of the aims common to the producer, the teacher and the researcher, that it will be possible to achieve both educational programmes of a higher quality and more precise and specific methods of research.

List of working papers submitted to Commission IV

Title of the communication	Author	Origin
IV,2 Research information		
General considerations	P. Schaeffer	O.R.T.F. — France
Entertainment and information	P. Schaeffer	O.R.T F. — France
Invitation to audio-visual research	M. Fauquet	Centre audio-visuel de Saint-Cloud — France
The teaching of philosophy and educational television	M^{me} D. Dreyfus	Ministère de l'Éducation nationale — France
IV,21 Visualization		
Problems raised by visualization	M. Egly	Comité franco-nigérien de télévision scolaire — Niger
Visualization in the service of school teaching	M. Egly	Télévision scolaire du Niger — Niger
The representation of geographical facts by animated pictures	G. Poinssac	Centre audio-visuel de Saint-Cloud — France
Experiments in visualization of mathematical concepts	M. Poly	Centre audio-visuel de Saint-Cloud — France
Some experiments in visualization in natural history through films and television programmes	G. Bouhot	Centre audio-visuel de Saint-Cloud — France

An experiment in visualizing in a literacy analysis *explication littéraire* for higher education. " Les Grenades " (Pomegranates) by Paul Valéry, explanation of the poem by Professor Etiemble.	J. Frapat	Centre audio-visuel de Saint-Cloud — France
Broadening of the perceptive field by television	A. Paillé	Centre audio-visuel de Saint-Cloud — France
New, particularly inexpensive audio-visual equipment suitable for use in educational television	M. Guillin	B.E.T.E.A. — France
A visualization experiment carried out in progressive stages around one theme	M. Guillin	B.E.T.E.A. — France
Picture-texts : potential and problems	M^{lle} J. Noubel	I.P.N. — France
Animation techniques linked to the use of new material (animation stand)	M. Guillin	I.P.N. — France
Research in the field of educational radio and television in Rumania	I. Grigorescu	Radiodifuziunea si Televiziunea Romana — Roumania

V,22/3 Motivation-Participation

Educational television and learning to think	G. Sandor	Magyar Radio es Televizio — Hungary
Self-activity stimuli in school broadcasts	A. Breitholz	Sveriges Radio — Sweden
Classification of types of learning communication and teaching by radio and television	I. Furlan	Jugoslovenska Radiotelevizija — Yugoslavia
Pupil's participation in the televised language class	Mrs L. Graham	Nova Scotia School Television — Canada
Research on expression psychology in educational broadcasts	E. Kösel	Wissenschaftliches Institut für Jugend und Bildungsfragen in Film und Fernsehen — West Germany
Views on the interest aroused in children aged 7 to 9 studied in the framework of reception in primary schools, 1966-67	M^{me} S. Charlier	I.P.N. — France
Some aspects of the problems of motivation and participation from an example of a polyvalent programme	M^{lle} G. Jacquinot	I.P.N. — France
Motivation in the study of a foreign language by television	M^{lle} H. Gantier	I.P.N. — France
The first weeks of learning by school television		Comité franco-nigérien de télévision scolaire — Niger
Identification processes	V. Bachy	Université de Louvain — Belgium

IV,24 Environment

Contribution by	J. Tymowski	Polskie Radio i Telewizja — Poland
Approach to adult viewers according to their socio-occupational categories	M^{lle} C. Lombard	I.P.N. — France
Psychoanalysis of television	M. Picard	I.P.N. — France
The role of experimental films in literacy campaigns	V. Ferenczi	Centre de recherche et d'étude pour la diffusion du français — France
Children in their environment		Comité franco-nigérien de télévision scolaire — Niger
The parallel school	G. Friedmann	France
Evaluating the cultural changes linked to the introduction of a televised school into a village in the Niger valley	M^{me} Bissiliat	Télévision scolaire du Niger — Niger

IV,3 Methods of evaluating and checking results

Some notes on the methods used in Australia to gauge the effectiveness of radio and television programmes for schools with an assessment of the value of these methods		A.B.C. — Australia
Recommendations on feedback and experimentation	Mrs Tidhar	Instructional Television Trust — Israel
Methods employed by Hungarian school radio in the analysis of results	Mrs E. Havril	Magyar Radio es Televizo — Hungary
Pedagogic application of research		Instructional Television Trust — Israel
The evaluation of educational broadcasts	K. V. Bailey	B.B.C. — United Kingdom
The techniques of observation and methods of analysis of the behaviour of students following a televised lecture	J. Devanz	Centre audio-visuel de Saint-Cloud — France
Non-standard information material and its significance	M^{me} M. Hartmann	I.P.N. — France
The conditions and limitations of testing the educational effectiveness of teaching Latin by radio. Prospects for further research	R. Vaunaize	I.P.N. — France

Tape-recording of school radio language broadcasts : problems and first evaluations of results	Mme M. Moineau	I.P.N. — France
Effects of educational programmes		N.H.K. — Japan
Tests of educational efficiency and effectiveness		Comité franco-nigérien de la télévision scolaire du Niger — Niger
Methods of evaluating and checking results in Yugoslavia	Mrs B. Jakovljevic	Jugoslovenska Radiotelevizija — Yugoslavia
Television and programmed learning	Mlle O. Eyssautier	Centre audio-visuel de Saint-Cloud — France
Evaluating the results of instructional television through student responses	G. L. Gropper	American Institute for Research — United States
Survey methods applied to the French language programmes of the Radiodiffusion-télévision belge	L. Daco	R.T.B. — Belgium
Effectiveness of educational television and interactions of conceptual references	Mme F. Govaerts	Centre national de Sociologie, Travail, Loisirs et Culture — Belgium
Pre-testing and methods of evaluating results	E. Mandl	Centre national de Sociologie, Travail, Loisirs et Culture — Belgium

CHAPTER 3

Plenary Sessions

Examination of the evolution of Educational Radio and Television since 1964

Inaugural Session

Friday, March 17th, 1967

Speeches by Messrs. JACQUES-BERNARD DUPONT
Chairman of the International Organizing Committee

YOSHINORI MAEDA
President of the Conference

JOHANNES B. BROEKSZ
President of the E.B.U.

MALCOLM S. ADISESHIAH
Deputy Director-General of U.N.E.S.C.O.

CHRISTIAN FOUCHET
Minister of Education — France

Jacques-Bernard Dupont

Chairman of the International Organizing Committee

Allow me, first of all, to pay homage to someone who has given us the pleasure of being with us today : Mr. Marcello Rodinò, the former Administrator-General of the R.A.I.

It was the R.A.I. which, by convoking the first Conference, took the important step of underlining the international importance of these educational problems which it has tackled so well in its own territory. And I do not think there is a more convincing sign of the rightness of its views, than your presence here, 500 strong, ladies and gentlemen, representing as you do, 102 organizations belonging to 82 countries.

If there is something new in this Paris Conference, it is to be found in a realization, wider and at the same time more precise, of the difficulties of the undertaking for which we are gathered here.

All this preliminary work which the International Committee has been occupied with for two years, all that you have accomplished during a week's seminar, all this work bears witness to this.

To my colleagues of the International Organizing Committee, to the general rapporteurs, to the chairmen of the Committees, to their rapporteurs and animateurs, all present here, to all these, I am deeply grateful, for the efforts which they have willingly expended during this period so competently and so generously. They have defined the themes of the Conference, assembled and arranged the basic material, before guiding the discussions of the seminar. It is now the function of Mr. Maeda, President of the N.H.K. and of Mr. Broeksz, President of the E.B.U. to guide our work.

I was happy to propose to the Board of the E.B.U. that Mr. Maeda be invited to preside over this Conference. The perfect organization of the Tokyo Conference, and also the exemplary activities of the organization which he directs are qualifications sufficiently eminent to justify his appointment as President, and we are grateful to him for having undertaken, for too short a time, this very long journey. I will now call on him to take the chair.

Yoshinori Maeda

President of the Conference

I wish to express my gratitude for having been chosen by the E.B.U. as President of this Conference, but I am also conscious of the heavy responsibilities that this function lays upon me.

In my capacity of president, I should like, first of all to greet, and thank for their presence, our guests of honour : M. Christian Fouchet, Minister of Education in the French Government; Mr. Adiseshiah, deputy director-general of U.N.E.S.C.O., Mr. Marcello Rodinò, who was the originator of the first International E.B.U. Conference on School Radio and Television, held in Rome in 1961, and all our other distinguished guests.

I am also deeply touched by the help so obligingly given to us by the O.R.T.F. and its Director, M. Jacques Bernard Dupont, who accepted the great responsibility of accommodating this Conference. Five and a half years have now passed since the first Conference in Rome, and the second Conference, in Tokyo, took place three years ago. The subject of this third Conference is to a large extent the same as that of the first two.

It must be noted, however, that the official title, after having been « International Conference on Sound and Television School Broadcasting » has become « International Conference on Educational Radio and Television ». This is not simply a terminological modification; it is a fundamental change which corresponds to the facts. The growing use, since the Tokyo Conference, of radio and television in university education and for adult education, social advancement and the struggle against illiteracy, is ample justification, in my opinion, for the modification proposed by the E.B.U. and the organizers.

An innovation has been made with respect to the composition and procedure of the Conference; animateurs have been nominated to organize the study in advance of the subjects on the agenda from a professional point of view.

There are more than 500 delegates and observers, including not only radio and television specialists, but also experts from various countries, in particular academics and governmental personalities belonging to the fields of teaching or to other fields.

Important improvements have thus been made to this third Conference, and the details of its procedure have been arranged with great care.

I am sure that you still remember the pictures of the Tokyo Conference transmitted by Telstar II to European and American stations. This use of a space relay was an epoch-making exploit, but today the relaying of television programmes by communication satellites is becoming normal everyday practice.

The third Committee of the present Conference has studied the problem of relaying educational programmes by satellites. The progress made by the science of telecommunications due to technological innovations is truly remarkable.

It is because of these technical innovations in the field of radio and television and the intense interest that educators in so many countries take in their subjects, that the attention given to educational programmes has increased so much in the course of the last few years, not only in the advanced countries of Europe and America, but also in the developing countries of Asia and Africa.

This fact has been clearly brought out by the international competitions in educational programmes for the Japan Prize, the creation of which had been proposed by the N.H.K. at the Tokyo Conference.

It is in fact interesting to note that, although many European and American radio and television organizations took part in the second competition, nearly half of the programmes presented came from developing countries. This example alone proves that the various countries of the world are becoming more and more interested in educational broadcasting.

The future prospects of educational broadcasting are infinite, but it is undeniable that many people have never had the opportunity of receiving the slightest education or have had to be satisfied with the little that was offered to them in this field. Mr. Marcello Rodino, the President of the Tokyo Conference, said, at the opening of that Conference, that there were just over 450 million people listening to radio, and just under 150 millions watching television through-out the world, but that, on the other hand, there were several hundred million illiterates. At the present moment the number of people who listen to the radio has risen by thirty millions, the number watching television similarly. The number of illiterates has risen to 750 millions. In Asia there are 170 million young people under 17 who have no possibility of going to school, and we must not lose sight of the fact that if they are not given the chance of doing so within two or three years, the resulting harm to them will follow them for the rest of their lives. This is why I am absolutely convinced that educational broadcasting has a vital role to play, not only for these human beings, but also in the cause of peace and progress in the world.

The main characteristic to be seen in the pedagogic circles of different countries is the tendency to use programmes not only for school work, but also for correspondence courses, literacy-teaching, the teaching of languages, social education, vocational training and adult education. To illustrate this tendency we may quote the correspondence courses offered by the Japanese radio and television service, the West German programme entitled « Third way to education », the project carried out by U.N.E.S.C.O. in Poland, « The University of the Air » in Great Britain, the Plan for the expansion of teaching by radio and television in the Soviet Union, the projects for educational broadcasts by satellites being studied in the United States, and other important projects. These educational programmes, we hope, will play an important role in social education and adult education as well as in school teaching. In fact they have already been a considerable help to teaching.

We live in an age of mass-communications. In a way this excessive development of communications buries us under an enormous volume of information, while at the same time the possibilities of real communication are dwindling. It could also be said that our modern world is characterized by the absence of conversation. It is obvious that communications between countries or nations are impeded by phenomena resulting from the complex interaction of various political, economic, ideological and racial problems. This being so, it is highly significant that the O.R.T.F., in accordance with the view expressed by the International Organizing Committee agreed to invite organizations from countries which are not members of the I.T.U. The fact that invitations were sent to organizations in all parts of the world, whatever the political situation of the countries in international terms, is of the greatest importance for it proves that educational broadcasting has overtaken politics on the road towards better international understanding.

In my capacity as president, I hope that this Paris Conference, thanks to the collaboration of the International Organizing Committee, with at its head the Director-general of the O.R.T.F. M. Dupont, thanks to the efforts of the organizers and staff of the Conference, the participating organizations and the experts, will arrive at a number of important results, continuing and developing those of the last two Conferences.

Johannes B. Broeksz

President of the E.B.U.

Three years ago the second Conference on Sound and Television School Broadcasting came to an end in Tokyo on a promise for another meeting, and today this promise has been kept, since, thanks to the initiative and the hospitality of the O.R.T.F., I have the honour and pleasure of opening the third E.B.U. Conference on Educational Radio and Television.

You will, no doubt, have noticed the difference between the two names of the Conference. Formerly, on one hand, the work of educators and broadcasting organizations dealt above all with schools and with the possibilities of applying audio-visual techniques to teaching in schools. This third Conference, however, wishes to be educational, on principle, with all that that entails : it means to examine with special attention the problems raised also by adult education at all levels, it means to widen the very idea of knowledge and how it is acquired, by bringing it to bear on all elements of culture. Without neglecting the strictly speaking ' schools ' aspects, which have lost none of their importance, the problem now is to supply all those who wish it, all those who need it, with means of perfecting their knowledge and their hold on life.

Education, as you realize, since so many of you have come from all over the world, is one of the major problems of our time, especially in the context of what has come to be called the demographic explosion. In order that all the inhabitants of this planet may have the possibility of participating in the progress achieved in the field of technology and in that of all the subjects which make up a culture, they must, in the first place, know about it and wish to participate in it. If I may venture to express a formula, the first stage in education consists of arousing the desire better to know this world in which we live. Whether this desire comes from the necessity of training, initial or supplementary, in a given technique, for a better relationship with society, for a greater command of an occupation, or whether it springs from curiosity in the most legitimate sense of the word, it must be stimulated.

And it is here that sound broadcasting and, above all, television, play a special, essential, part. A picture is universal and can be understood by all. Its explicitness enables many problems to be solved. To this may be added the fact that it can now be transmitted over vast distances and even from continent to continent. The geographical isolation of certain parts of the world can now be overcome. Culture has no longer, so to speak, any privileged areas.

All this, of course, is not without difficulties. The problems which arise, the way in which to tackle or solve them, vary according to the country and its needs. But it is precisely one of the aims of this Conference to allow a sort of examination to be made on a world scale of the questions and their solutions. For a few days, in a professional setting, you will have the opportunity of comparing the methods applied here and there in the production of educational programmes and in research; you will be able to study the possibilities of exchanges and cooperation.

For, and this is of fundamental importance, the Conference is not limited, and must not be limited, to a simple exchange of information, to an academic debate, whose interest lasts no longer than the encounter. Its conclusions must have a practical effect on the consequent productions of each and everyone. Ideally, as a result of this Conference, the creation and circulation of educational programmes, the method of conceiving problems and finding solutions for them, should no longer be quite the same as before. The Conference must live on well after it ends.

Before leaving you to your deliberations, I should like to thank the O.R.T.F. and its Director-General, M. Dupont, for all their labours in organizing and preparing this conference. I should like also to express my thanks to the International Organizing Committee which met on several occasions to define the tasks, the aims and the methods of this third Conference.

Malcolm S. Adiseshiah

Deputy director-general of U.N.E.S.C.O.

It is a great pleasure for me to convey to this Conference the wishes of the Director-general of U.N.E.S.C.O., M. René Maheu, who regrets not being able to be with you today. At this moment, on the Abou Simbel site, he is taking part in the work of the executive committee of the campaign for the preservation of the Nubian monuments, a campaign which owes a not inconsiderable part of its success to the understanding and support of the mass-media organizations which you represent.

Not for the first time, I realize that these organizations and U.N.E.S.C.O. have the same concern with the spreading of education throughout the world by the most rapid and efficient methods, and, in particular, by radio and television. The huge task which consists of developing and improving possibilities for education everywhere can only be carried out by calling on all the resources available in each country. And if modern teaching, as a system and as a technique is to keep its harmony and its human mission, it is essential that educators and mass-media specialists combine their efforts. There must be perfect understanding both of the mechanism of teaching and of the role of mass-media.

This combination of efforts and skills has already given birth to a new profession, that of specialist of teaching techniques One of the principal results of this Conference will be to help us to define more precisely the nature of this profession. The specialist in teaching techniques must be a past master in teaching methods; he must have many strings to his bow. He must make use of all he knows to help man reflect himself in society, instead of living, alienated, in an environment which he does not understand and which he even fears. Radio and television are two of the most important methods in which the specialist of teaching techniques must be a past master.

In the developing countries, educators and educational planners, who have to determine an order of priority in the context of limited resources, cannot avoid many painful decisions. The educator is preoccupied by the psychological effects of radio and of television, of their advantages and weaknesses as means of teaching. What interests the planner is that radio and television should be able to contribute to the expansion, efficiency and economic viability of the teaching system.

U.N.E.S.C.O. considers, and I am sure that we all agree, that the relations between educational radio and television and the plan or administration of an educational system must be the subject of a continuous dialogue between radio and television specialists on one hand and educational planners or administrators, teachers and specialists of the various subjects, on the other. The experience, ideas, and resources of your organizations are irreplaceable, but their effectiveness would be greatly increased if your work and that of the educators and educational planners were coordinated.

Each of the organizations represented here must be able to bring its own contribution to the solution of the numerous practical problems raised by the use of radio and television in education. So, I hope, will U.N.E.S.C.O. Be that as it may, one problem is excluded — that of a possible rivalry between organizations national and international, governmental and non-governmental. The task which awaits us is too big to allow such rivalry. In this spirit I should like to pay homage to the European Broadcasting Union : by making it possible for this Conference to be held, the E.B.U. will have enabled considerable progress to be made towards a wider and more effective use of radio and television in education.

Christian Fouchet

Minister of National Education, France

It is a great pleasure for the representative of the French Government to be here during the opening session of this third Conference of your European Broadcasting Union to wish the representatives of the various participating organizations a very cordial welcome and to greet the eminent personalities gathered here.

This conference shows, in more than one way, that an essential stage has been reached and takes place at a time when a new phase in the use of audio-visual techniques for educational purposes is being entered. For the problems which are going to be studied here are at the meeting point of two of the most characteristic phenomena of the contemporary world. On one hand, the extraordinary need for education which is manifest all over the world today, and which stems, not only from the increase in the population of the world, but also from the fact that men now refuse to accept ignorance, cultural deprivation and intellectual poverty. On the other hand, the considerable development in mass-media and their growing role in our civilization.

In addition to the cultural environment which they create, by the intellectual stimulation they bring to all those who, at one time or another, perforce undergo their influence, radio and television have very quickly shown themselves to be a privileged means of spreading and developing knowledge at the different levels of school and university teaching, for adult education, for social advancement, and for the struggle against illiteracy.

Already, the consequences of the upheaval caused by the introduction of mass-communication techniques into the field of education are noticeable. Formerly a closed, self-sufficient world, teaching can no longer stand aloof. The use of audio-visual techniques has completely transformed the means whereby education and culture are transmitted and acquired. Books, the traditional vehicle of this transmission have today been deprived of their monopoly.

In many countries, a growing mass of men and women come into contact with knowledge without the aid of the written language, sometimes even without the aid of schools.

The same transformation is evident in the sort of public affected by teaching. Yesterday, education was aimed at the school population assembled in educational establishments. Today, educational activity involves the whole population, adults as well as children, in a programme of training, refresher courses and advancement which must give any man, at any moment, the chance of access to a better future. This programme, which may be summarized in the idea of lifelong education, and to which France for her part attaches particular importance, must, quite obviously, call on the most modern mass-communication techniques.

The evidence shows that this double transformation of educational activity entails changes in the very methods of the latter. Teaching with audio-visual techniques is not, it seems to us, a type of teaching which contradicts or makes obsolete the methods of traditional teaching, nor is it a kind of emergency teaching intended only to fill this or that gap in existing educational systems. On the contrary, it is a new way of approaching teaching, a new way of conceiving relations between master and pupil, thanks to a better knowledge of both, a new definition of the dialogue between teacher and taught.

These vast transformations, characteristic of the contemporary world, are felt everywhere, although naturally, in varying ways, depending on the country. In the old, industrialized countries, such as France, these transformations are accompanied by a particularly noticeable increase in the number of children attending school, and this raises an extremely important problem, namely the problem of access to higher education.

But it is to young, developing countries that the contribution of a conference like this may seem essential. In all these countries, whatever their system of government and degree of expansion, a programme for the organization and development of educational activity is being followed on a national scale, a programme in which, naturally, audio-visual teaching techniques find an essential place. And it is this development programme which these countries must pursue, with the greatest rigour, and by making use of all their potentialities, which will be substantially encouraged by the work of your Conference.

For although your Conference, ladies and gentlemen, is entering today, into its plenary and official phase, it has already, in the framework of the preliminary seminar, got through considerable and, in more than one way, new work. New, because it is the result of the collaboration of specialists of different subjects — teachers, technologists, economists — and of the cooperation of the appropriate professionals and planners who advise the policy-makers. New, because the originality of this preliminary work lies in the fact that it has sought to establish a common language for the different specialists.

Your Conference will be able to work on the basis of the reports of the different Commissions. One of its tasks will be to measure the recent development of the uses of radio and television for educational purposes and to draw up a balance-sheet, for the various geographic zones, of what has been produced in these different fields.

But, quite obviously, this Conference's job cannot stop there. For a balance-sheet like this has no meaning unless it makes evident the fields in which difficulties are still appearing and, above all, the techniques to be put into practice to encourage more rapid development in the future. Beyond subjective impressions and partial experiments, the conditions of a real and lasting dialogue must be found, between all those who in the various countries are interested in these tasks, so that, by the perfecting of a common language, information, methods and results may be circulated on a universal scale.

This is why we think it desirable that this Conference should present certain topics for reflection on subjects which are taking on decisive importance for the years to come. I should like, very briefly, to outline a few.

One of the first topics you will be examining will be that of the training and preparation of teachers and educators. For we have a problem, namely the gap between the technical means made available to teachers and the use that teachers make of them. This gap is often the result of a lack of information, but also of certain reservations on the part of those concerned, reservations of which it ought to be possible to define both the causes and the remedies by more precise studies. For, far from constituting a menace for educators and teachers, audio-visual techniques represent an opportunity for them to reflect more profoundly on what constitutes their vocation, that is to say the transmission of knowledge.

Another important topic which you will be examining will be planning. In most countries the development of educational activities is now covered by a plan, and this planned character of educational activities has, naturally, important consequences for the use of radio and television for educational purposes. Henceforth, in fact, educational plans cannot be seen as a whole without the means of carrying out these plans and of spreading knowledge being studied in conjunction. But this requirement raises big problems, in particular from the economic and financial point of view, and it would be very desirable that studies in greater depth should be made about this.

An even larger field, ladies and gentlemen, awaits your attention, namely the development of technology and the consequences of this development on education. I have already stressed in other conferences the possibilities that advanced technology, and particularly the use of artificial satellites, offers in the struggle against illiteracy and ignorance. But these exciting prospects are at the same time fraught with consequences in the legal, economic and financial fields, and it is this which must be measured with precision.

Finally, in all its aspects, your Conference will bring out the necessity of a constant effort for research, and in making this effort, the necessity of abandoning the traditional discriminations between the various subjects. In this Conference educators, technologists and economists are gathered together. It is their joint efforts which will define the progress to be made and the means of making it.

These different problems are naturally only a few of those that your Conference will be examining in the course of the next few days. Later, it will be the task of the organizations concerned and on occasion the authorities responsible for education, to continue the study of these questions with a view to taking the appropriate action.

France, which has already been developing fruitful cooperation in this field for a very long time with many States, in particular with developing countries, is delighted for her part to welcome your Conference. She awaits its results with the keenest interest. As far as she is concerned, she is fully prepared to accentuate and increase the work of exchange and collaboration which she has already undertaken, in the service of the development of education and culture for the whole of mankind.

Recent developments of educational radio and television in the member Organizations of the E. B. U.

Friday, March 17th, 1967

The Administrative Board of the European Broadcasting Union had asked M. Louis-Philippe Kammans, director of Television Programmes of the Radiodiffusion-Télévision belge, to present to the members of the Conference a general survey of the evolution of educational radio and television in the various organizations actively participating in the Union.

In order to gather the elements necessary for this presentation, M. Kammans conceived an exhaustive questionnaire which the Radiodiffusion-Télévision belge sent to active Union members. A synthesis of the documents received was presented in plenary session on the 17th of March during the morning.

This presentation presented :

- developments in school radio;
- developments in school television;
- developments in radio and television for adults.

It was followed by a report by M. Hahr, the Director of the Administrative Office of the E.B.U., who showed the steps taken by the Union towards coordinating on a national level the efforts of the various organizations.

You will find in Chapter 5, a detailed list of the descriptions of activities established by these organizations.

Louis-Philippe Kammans
Director of Television Programmes, R.T.B.

The present state of educational radio and television in western Europe

What has been happening — what new things have been happening in Western Europe, in the field of educational radio and television since the last time we met, since the Tokyo Conference? That is the question which we are going to endeavour to answer.

We are going to draw up a balance-sheet, and like all balance-sheets ours will be packed with figures, that is to say, tedious. But is any other procedure possible if one wishes to give an account with any claim to objectivity? The subject we are dealing with is extremely vast and diversified, as may be imagined; we have endeavoured, nevertheless, to bring out some of the main points from so much interesting work. We thought we might draw attention to one or two ventures which seemed particularly outstanding or novel, without however claiming to establish a scale of values. Quite the contrary; we are strongly tempted to begin this report by paying a special tribute to the most traditional type of broadcast, to the, let us say, ordinary programmes which take up thousands of broadcasting hours if we consider the whole of Western Europe, which are now hardly noticed at all because we are so used to them but which, all the same, let's not forget, have added enormously to our pedagogic resources in these last ten years and which form the foundation of a more and more solid, coherent and impressive structure.

All the same it is comforting to be able to record that, despite reservations, whether profound or not, on the part of some, and criticisms, usually constructive in fact, on the part of others, the majority of European educators have understood that radio and television offer them means of action not to be neglected and that the authorities responsible for education attach more and more importance to the role of mass communication media. All this, it must be added, increases our responsibilities.

This, then, could be our first observation today; in Western Europe, educational radio and television has arrived and is, as they say, here to stay. The case is won. The struggle now is for quality, for increased efficiency, for the perfection of the means used in the service of teaching. We could say that.

And, in fact, if we survey the impressive body of information supplied by our inquiry, and if we attempt to summarize the mass of personal impressions which we have been able to collect, we can record from the outset, in the field of radio as in television, considerable progress from the point of view both of the *quantity* of programmes produced and of the *quality* of these productions.

I. SCHOOL RADIO

Let us first look at school radio. One might have thought that radio, faced with the progress of television, would have seen its importance diminishing and its programmes dwindling. Nothing of the sort has happened, quite the contrary. Thus, even in the midst of social communities with a high standard of living, even in a country in which television has entered most or all homes, *School Radio is still expanding*.

What is the reason for this? No doubt because it is easily handled and operated in a classroom and because it is cheap both to receive and produce. But that is not all. There is also the fact that radio has multiplied, as it were, its power by calling on two parallel techniques : the distribution of tape-recordings and radiovision.

In the majority of the countries under consideration we can see a very clear increase in the number of hours of broadcasting aimed at the primary school level and particularly for the teaching of languages — sometimes a slight regression at the secondary school level — but on the whole, I repeat, production and utilization are on the increase.

Let us look at all this a little more closely.

We know what *radiovision* is : the radio programme is illustrated at given moments by the projection in the classroom of a series of specially prepared slides.

The development and success of this simple technique may be considered as unexpected in Western Europe; one might have thought that it would find a better home in the developing or less favoured countries. It was seen as a sort of cutprice television. But not at all. The figures speak for themselves.

In FRANCE, the production of radiovision programmes is rising steadily. From 6 programmes in 1963-1964, to 30 programmes in 1966-1967. More than 40,000 series of slides were sold in 1965-1966. The subjects illustrated were : music, introduction to art, history, geography and science. Each programme requires the projection of 15 slides.

The same holds good for GREAT BRITAIN. In addition to 31 programmes illustrating the French language course « French for Beginners », there are 20 programmes a year devoted to geography, history, science, the arts and religion.

In BELGIUM, the B.R.T. has been using radiovision since 1964. Each broadcast includes 36 colour-slides which schools can obtain by subscription. About 500 schools have subscribed in this way. The full text of the broadcast is sent to the subscribers in the form of a booklet. 50 series, illustrating history and geography have already been published.

The tape-recording of broadcasts enables them, obviously, to be reproduced whenever wished and this frees users from the restrictions of the time-table, and we know what an obstacle these restrictions (which are after all understandable) are to the rational utilization of School Radio and Television.

In GREAT-BRITAIN, tape-recordings are now extensively used, apparently two thirds of all programmes listened to. And, according to the B.B.C., thanks to this technique the number of listeners has increased by more than 50 % in two years. It is to be noted that the tapes of the new series allow for stopping and winding-back which the teacher is encouraged to exploit in the best interests of his class.

FRANCE has made an interesting experiment by setting up a recording centre at Clermont-Ferrand which distributes recordings to schools in the area.

SWEDEN makes great use of this technique of recording broadcast lessons for different groups of listeners at the most suitable times.

In DENMARK also, 8 weekly 25 minute broadcasts are taped and teachers can obtain copies. In 1965-1966, 75,000 copies were distributed in this way, an increase in demand of about 45 %.

In PORTUGAL too, broadcasts are recorded and made available to schools by the Institute of Audio-Visual Techniques.

I will limit myself to these examples, which are the most striking.

As for the number of broadcasting hours, the contents of the programmes, new trends and particularly striking new developments, we shall be obliged to deal with all this systematically more often than not by quoting for each country, the figures, the subjects dealt with and the titles of the programmes. A ponderous and perhaps tedious method, I grant you, but the only one which can give a full picture of what is going on — and even then it will be incomplete.

And since we are in Paris, let us begin with FRANCE.

As far as the increase in hours in school radio programmes is concerned, the figures here are particularly striking : 5 hours a week in 1963; 11 hours in 1964; 19 hours 40 minutes in 1966 and 21 hours in 1967. To cope with the increase in production, the principle of decentralization has been adopted and the regional centres of Lille, Strasbourg and Marseille have been chosen.

32 % of French schools, that is more than 25,000, are now equipped for reception. Last year more than 2,000 programmes were produced, dealing with all subjects from stories and nursery rhymes for nursery schools to programmes on Latin, English or German and French intended for the first four years of secondary education and making a complete 4-year course.

As examples of innovations, we shall quote three series which meet the needs of the teaching methods of the new transition classes :

1. *life around us*, a study of environment reinforced by actualization around certain topics such as : food, shelter, etc.;

2. *from literature to language* which seeks to develop oral and written expression, and;

3. a series of *information for teachers.*

For the final, practical classes, the pedagogical basis of which is manual work, there are also three series :

1. *trades and occupations* which shows the main spheres of activity in industry and commerce;

2. *the world of today* which gives an introduction to economico-technical questions, and finally;

3. a series of pedagogic information for teachers which we mention because it illustrates a trend which is becoming more and more common in television and in radio. The quickest and most effective way to reach the teaching profession as a whole is still by using mass communication techniques. In a rapidly evolving world where teachers are constantly in danger of being left behind by science and technology, this is worth remembering.

Let us turn to GREAT BRITAIN :

At the B.B.C. no appreciable increase since 1964 in the number of programmes, which however now pass the impressive figure of 50 broadcasts a week. More than 30,000 schools follow these broadcasts. The important point is a new approach to the content. All these programmes have recently been re-thought with a view to better developing the *creative activities* of the child.

At the primary school level great use is made of legends and folk-lore to stimulate the workings of the children's imagination. Music, poetry and drama take an important place at the primary and secondary school levels. In series like « Drama Workshop » or « Music Workshop », the children are encouraged to write, to compose and to interpret. Efforts are always made to encourage free expression on the part of the pupils. The science programmes are less factual in character than before, but they attempt to awaken curiosity and a taste for research in a series entitled : « Starting Points ».

For young people leaving school at the age of 15 or 16, the problems of adolescence are tackled in a series which gives an introduction to sex, with an accompanying booklet.

Another innovation : the introduction of *strip-cartoons* in the booklet which accompanies the second year of the French language course.

A very distinct increase in the number of broadcasts in ITALY : for the secondary school level, this time, 60 broadcasts in 1966 as against 40 the year before. Status quo at the primary school level : 156 broadcasts. Here again a new approach; while maintaining its character as a didactic and pedagogic aid the *Radio per la Scuola* is now stressing active-education programmes based on the collaboration of the pupils. The broadcasting of documentaries, interviews and news has been intensified.

As for innovations, let us single out in 1965, an advanced course in the native language, entitled « Let's speak better » presented in the form of amusing sketches and, in 1966, a series entitled « Thespis's Little Chariot » which presents the actors and authors of the italian theatre with from extracts plays. 120,000 primary schools are equipped to receive these programmes and 40,000 secondary schools as against 20,000 the year before.

In WEST GERMANY, radio for schools is widely used in the « Länder » — as opposed to television for schools which exists only in Bavaria and only since September 1964. It is broadcast on the medium wave and on V.H.F. and can thus cover a large area. The broadcasts include a wide variety of programmes, catering for a large range of classes from the third year at school to the thirteenth. But the majority of the programmes are aimed at the pupils in the 12-16 age group. Most subjects are illustrated, in particular language lessons; German, of course, and also English and French, literature, music, history, geography, natural history, physics, chemistry and civics.

A few more figures which will give a better idea of what is being undertaken: in 1966, 4,000 programmes were broadcast for the benefit of primary education, 3,700 for secondary education, and 120 of 45 minutes each for higher and university education.

In SPAIN, the radio broadcasts regular lessons from the National Centre of Secondary Education by means of a hundred transmitters distributed throughout the country. These lessons constitute an autonomous course comparable to the baccalauréat.

We have already talked about PORTUGAL. Let us add that experimental programmes for secondary schools are being studied.

Increase again in HOLLAND, in the number of broadcasts for primary education which since last year are no longer limited to the sixth year but now cater also for the fifth and fourth years.

In SWITZERLAND too, broadcasting for primary schools has been increased : 255 programmes in 1966 as against 230 before. Particular attention should be paid to the fact that the Italian-speaking cantons have made listening compulsory.

In SWEDEN, for primary education : 730 programmes as against 574 two years ago — 95 % of the classes being equipped; for secondary education : 823 programmes as against 605, the classes being equipped from 70 % to 80 % according to age-group. But we must stress the following experiment : in Sweden the educational authorities have thought it possible to make the teaching of English compulsory from the primary school onwards, thanks to the lessons given by radio which have compensated for the shortage of qualified teachers at this level. This is worth underlining.

Finally, intense activity in YUGOSLAVIA where School Radio is used in the six Republics of the Federation with a time-table of 5 programmes of 45 minutes a day. Literature and the native language take up 30 % of the programmes, music 20 %, knowledge of nature and society 20 %, foreign languages 12 %, and other subjects share the rest of the time.

Such are, ladies and gentlemen, the notable developments of *School Radio* in Western Europe.

It is comforting to note that radio has not been traumatized by the development of television, that it has, on the contrary, gained ground, and that it has been able, even more than previously, to define and meet its aims and to adjust and perfect its methods.

II. SCHOOL TELEVISION

Now, with your permission, we are going to consider *School Television* and its evolution during the same period.

First of all, briefly, we must acknowledge the birth, since 1964, of several new school television services, namely in :

— *Switzerland*, French, German and Italian speaking,
— *Portugal*,
— *Ireland*,
— *Netherlands*,
— *Bavaria*, the first of the West German Länder to enter this field.

Most of the other countries have increased the number of their programmes, in sometimes considerable proportions.

Some countries have adopted new policies which we shall talk about in a moment.

In France the « Télébac » experiment must certainly be singled out.

With regard to accompanying material we may note the appearance in West Germany and Belgium of booklets for pupils.

We shall begin our survey with the newly created television services :

SWITZERLAND inaugurated its service, as we said, in 1964 for the three language groups, French, German and Italian. Altogether 50 programmes were broadcast in 1966, dealing with various subjects : geography, history, natural history, civics.

All these programmes belong to the category of *enrichment television.*

In PORTUGAL, on the other hand, television for schools consists of direct teaching. *La telescola* broadcasts the ' *standard course* ' which includes all the subjects forming the first two-year phase of secondary education, technical or academic. These programmes are watched in about 300 reception centres, each under the guidance of a supervisor. At the end of the course the pupils can obtain a certificate which will enable them to continue their secondary education, either in a grammar school or a technical school. The broadcasts are from 3 p.m. to 7 p.m. each day.

In IRELAND too the first programmes appeared in 1964. They were a faithful illustration of the courses laid down by the Ministry of Education. A distinct increase in the number of programmes for primary schools in 1966 can be seen : 167 programmes as against 117. The subjects taught are essentially physics, chemistry, biology and modern mathematics. In the series on mathematics direct questions put by the television teacher bring the pupils into active participation.

As an original venture in direct teaching we may note a course on agriculture, spread over two years, with exactly the same syllabus as that of the agricultural colleges. This course, intended for pupils having left school after the primary level, is followed by groups of young farmers, each organized under the direction of a supervisor who also supplies supplementary material. It leads to a diploma of the same value as that awarded by the agricultural colleges

In WEST GERMANY it was Bavaria which took the initiative in starting programmes for schools in 1964. We are assured that as from today more than three-quarters of primary, secondary and grammar schools are equipped to receive programmes, that is to say, 5,300 schools.

63 programmes are broadcast for the primary schools, 106 for the secondary schools, covering practically all subjects :

— physics, chemistry and biology;

— history and geography;
— German, literature;
— music and the arts, religion and vocational education.

Special programmes for teachers are scheduled to begin next September.

Although, strictly speaking, SPAIN does not broadcast programmes for schools, *i. e.* programmes intended for classroom reception, we may note a new venture born in October 1966. This consists of cultural programmes broadcast three times a week for the benefit of the non-school-attending public, or as supplementary material for students at all levels — primary, secondary and higher.

Let us continue now our survey of Europe, singling out the most spectacular developments or the most conspicuous innovations.

FINLAND has doubled the number of programmes for primary schools, rising from 100 to 200, while the number of schools equipped for reception has risen from 1,000 to 2,000.

DENMARK reports difficulties with respect to the equipping of schools, television sets being considered too expensive. But we know that Denmark produces 4 to 6, often remarkable, programmes a week for primary and secondary schools.

NORWAY reports an extension of its programmes for primary schools and an increase in the number of programmes for secondary schools. New subjects are covered : religion, family economy, road traffic and ethics.

But, a very interesting point is the fact that an increasing understanding of television on the part of teachers has been noted : of 814 teachers questioned by a survey, only 5 declared that they would no longer use school television.

SWEDEN draws our attention to a constant progression in the number of programmes at both levels; at the primary level the number has risen from 54 to more than 100 : at the secondary level, from 63 to about 90; that is, exactly 222 programmes in all, each being broadcast three times.

With respect to the higher level of secondary education, the ‘ gymnasium ’, 95 % of the schools have television sets. And they are already thinking of using video-tape recorders, but, in fact, these machines are not yet in general use.

The accompanying material is particularly rich. We may single out for special attention an attempt at a combined radio and television series, and also the regular collaboration with the other Scandinavian countries, in the form of exchanges or co-productions, which is worthy of all our attention.

In YUGOSLAVIA, School Television is developing rapidly. It started in 1960, but only in the Zagreb studio, the other studios having only recently begun. At the moment Zagreb broadcasts 4 80-minute programmes a day, which are repeated the same day, while the Belgrade studio is already broadcasting 180 minutes a week, and the Ljubljana and Skoplje studios 75 minutes a week each.

The most widely-taught subjects are those in the field of natural history, as live illustration is particularly useful here, but no subject is deliberately left out of the programmes, on the contrary. For the programmes seek to serve various purposes :

— to complement classroom teaching by illustrating natural or social phenomena, for example;

— to make teaching ' real ';

— autonomous courses in certain cases;

— training of the teaching profession;

— pre- and post-school age programmes of course, and civic and social education for young people.

Particular attention should be paid to the close collaboration between radio and Television in programme planning. They also produce the accompanying material together. Also worthy of attention is the importance attached, in training teachers, to courses on methodology and the use of mass communication media and audio-visual techniques.

In the NETHERLANDS also we find an increase. At the primary level there is a tendency to replace complementary programmes by an organized series of programmes.

With regard to the secondary schools, we may note that productions of the ' documentary film ' type have been abandoned in favour of a more directly didactic style with somebody to present the programme.

An important place is now given to the study of social mechanisms as well as to religious instruction.

In BELGIUM

— *Flemish-speaking*, there has been no evolution in the conception of the programmes in the last few years, but the accompanying documents have been modified and enriched. We have already reported a very interesting innovation; the introduction of booklets for primary school pupils. There have also been a series of new programmes on technology, economics and civic education;

— *French-speaking*, an increase in the number of programmes for secondary schools, and the introduction, in January 1967, of programmes for primary schools. An innovation dating from last year has been the pre-showing of school programmes in the early evening for the benefit of teachers. Broadcasts of masterpieces of classical and contemporary theatre in their entirety are organized four times a year. Also worth noting is a new approach in foreign language programmes, using cartoons, dialogue and structural substitutions. Finally, there has been an increase in the distribution of documentary sheets, of which 185,000 free copies have been distributed in the course of this academic year;

— *For the country as a whole*, Flemish and French-speaking, the number of schools equipped to receive programmes has increased by 50 %.

Let us move on to ITALY. Although the R.A.I. does not broadcast programmes for primary schools, it broadcasts 2,500 programmes a year for the lower level of secondary education. This fascinating experiment which deserves our attention, is an *autonomous teaching course* for children who have no school in their district. This experiment merits in our opinion a full presentation which, you will understand, we are unable to give here and now. Meanwhile, since October 1966 the Italian television service has been broadcasting programmes planned for the benefit of schools at the same level. These are programmes intended to be integrated into the classroom lessons, to complete and enrich them.

Furthermore 30 experimental programmes for the higher level of secondary education will be broadcast in April and May 1967. They will cover the following subjects : history, philosophy, history of art, physics, chemistry and biology, and will have a subsidiary ' integration ' role, that is to say, enrichment of the existing lessons. As for higher and university education, the number of programmes has increased : 28 instead of 20. And just for the record let us quote the series of programmes for the benefit of young people and their parents, « Il tuo domani » (Your future).

Now we come to FRANCE.

Here again, we must begin by noting a spectacular increase in programmes which jump from 5 hours a week in 1962 to 13 hours 35 minutes a week in 1966-1967.

Thus, in the course of the academic year 1965-1966, 950 programmes, divided into 38 series were produced. This copious production had been called for by the Second Extension Plan of Radio and Television for Schools for the period 1963-1967, a plan which has been applied in its entirety.

It directed that future activities should deal with three types of programme :

1. support of the teaching of basic subjects in the first section of secondary education;
2. information and refresher courses for secondary school teachers in scientific subjects, and it is in this category that we may place the 80 programmes entitled « Les chantiers mathématiques » (Mathematics workshop);
3. productions of experimental programmes for adults in the context of social advancement.

The carrying-out of this four-year plan has been accompanied naturally by practical arrangements such as the granting of the necessary technical means to the producers, and logistical aid to the programmes for schools, the equipping of schools, the systematic checking of the results, the improvement of accompanying publications, etc.

In this connection, an original initiative : the Radio and Television School Bulletin, published every fortnight, in which programme users give the results of their experiences in using the programmes. There is here, then, a dialogue between producer and user, with 1,600 schools subscribing.

Among the innovations and most remarkable productions, we might pick out the following :

— the preparation of three experimental programmes for the pre-school level, that is, the nursery school;

— series of programmes on philosophy. In 1967, these are presented in the form of conversations with the great contemporary French philosophers, and have as their theme : language — and work. (And in this connection how can we help thinking : what fortunate pupils in this day and age to benefit by such a body of teachers throughout the whole country!);

— programmes entitled « Theatre throughout the ages », each of which presents a play in its entirety, and is completed, this is worth noting, the following week, by a School Radio programme which gives commentaries on the play already shown. Thus radio and television appear henceforth as complementary and no longer rival, media;

— a new, and far-reaching experiment which has given remarkable results : *Télébac*.

This consists of programmes shown during the school holidays in the summer, for the benefit of pupils having failed in the Baccalauréat examinations in July, and acting in conjunction with a similar series on the radio. The revision of each subject with the emphasis on difficulties, and advice as to how to study and tackle such a vast syllabus, have, it seems, borne fruit and helped a large number of pupils to tackle the re-sits with success. This experiment alone deserves long commentaries. This is unfortunately not the place for it, but it has been greatly discussed and will give rise to much more discussion. The experiment will be renewed this summer. It has peremptorily demonstrated the importance and incontestable power of television for schools.

As everyone knows, GREAT BRITAIN produces a very wide range of programmes for schools.

The B.B.C. has been broadcasting 15 programmes a week since 1964 but a new allocation has been introduced between programmes for secondary and programmes for primary schools, the latter having increased by 35 %. More than 15,000 schools use the programmes. The series illustrate topics on the fringe of the traditional lessons, or in relation to special points in the academic syllabus. Among the series traditionally included each year, let us mention a weekly news programme (Current affairs), a series giving an introduction to the world of today, and programmes on drama, illustrating Shakespeare and the greatest authors of different cultures. Among the innovations, we may pick out a series of programmes on drama *specially intended for backward children.*

Attempts have been made recently to give more direct help to *teachers using new pedagogic methods* particularly in the field of mathematics and science. This work has been done, in particular with groups of teachers in charge of the *Nuffield Foundation Science Teaching Project* which is revolutionizing science teaching methods at all levels. Let us single out for special attention a new series entitled « Middle School Physics ».

In the same way, but this time for primary schools, the series *Look and read* supplies valuable material for teaching word-blind children to read.

A special effort has been made in the direction of the *promotion of international understanding*, with new series like « Europe from North to South », which uses material from the different members of the E.B.U. Finally, the series « Come home with me », filmed in India, seeks to tighten the links between British pupils and their foreign school-mates resident in Great Britain.

As for the I.T.A., there is a constant progression in activities for schools, with a notable increase in the number of programmes for primary schools.

— 9,154 primary schools now follow programmes — as against 2,184 in 1964;
— and 5.615 secondary schools as against 3,035 in 1964.

At the primary school level, the emphasis is on stimulating and creative activities as these titles show : « Finding out », « Let's make it » or « Picture box ». Also worthy of notice is the appearance of *French lessons for nine-year old pupils* having already learnt the language for a year. The lessons make use of direct teaching and, at the same time, of sketches, songs and games.

At the other pole of activity : accompaniment of the new methods in mathematics and science, including, in particular, the series « Primary mathematics », based on the visual and practical experience of pupils aged 9 to 11.

At the secondary school level, activities are characterized by an increase in the amount of local productions, better adapted to the needs of the different regions and by the exploration of several new fields of activity, in particular : *Information* for young people about to leave school, and an account of the responsibilities they will have to assume in life. These programmes are differentiated. Some, like « Young citizens' club » are intended for children aged 12 to 15, others for older teenagers, others still for girls of 14 or 15; they deal not only with the choice of a career but also with the use of leisure and how to make friends.

We shall note a series specially intended for less gifted pupils : *You and the world* and a series on sexual education in the form of discussions between boys and girls of 15 and 16, and specialists : doctors, psychologists and social workers.

Another field : the new methods of teaching English and Science, in relation to the syllabus of the new examination for the Certificate of Secondary Education.

And finally the series « *One World* » which has existed for more than two years and which seeks to stimulate international understanding.

III. ADULT EDUCATION

As you know, the organizers of the Paris Conference have decided no longer to limit themselves to *school* radio and television, but also to consider educational radio and television in general. Not that it is a question of covering the mass of cultural programmes which are innumerable and which have all some educational value, we should be drowned in a bottomless ocean. What we are going to do is to study those productions whose educational character is clearly defined :

— by the aims pursued, seeking a systematic acquisition of knowledge;
— by regular and progressive programming;
— by complementary methods put into operation;
— and by active reception, of which results are followed and checked.

a. *Radio.*

For a long time, throughout Europe, radio services have been co-operating in this way in adult education.

Thanks to the International Radio-Television University a large number of these programmes circulate from country to country.

We may note the abundance and success, apparently, of language courses, and not only for the languages of Western Europe. In Great Britain, for example, Russian and Chinese are taught by radio.

However, with the possible exception perhaps of a German innovation, which we shall talk about in a moment, we have noticed nothing new in this field, and in order not to make this account unduly cumbersome I shall ask your permission to move straight on to adult education by television.

b. *Television.*

In ITALY, the famous literacy-teaching programmes have taken, since 1966, a new turn.

As it is now considered that from now on the most acute phase of the struggle against illiteracy has been overcome, the reading and writing lessons of the 1st course have been transformed into a course of basic instruction intended to avoid the problem of retrogression into illiteracy.

The level of the 2nd course has also been raised and now presents material corresponding to the first classes of the middle school, but adapted for adults.

For the two courses, 124 30 minute programmes a year are broadcast, accompanied by manuals, and followed up under the supervision of monitors, in listening groups which usually meet in the Reading Centres, belonging to the Ministry of Education.

In another connection we must record that since the 6th of last February daily 30 minute programmes under the title of *Sapere* have been broadcast on both channels.

Among the subjects taught : French, English, civics, penal procedure, child welfare, geophysics, and a series devoted to what one might call the art of living and organizing one's home, including practical advice on decoration and furnishing.

In SPAIN television collaborates in the national campaign for literacy and cultural advancement for adults, launched by the Ministry of Education and Science.

Viewing is individual or collective, in the latter case under the supervision of monitors. The programmes are accompanied by ' writing exercise books '.

In PORTUGAL, an identical campaign has been conducted since 1964 by Television. The programmes have now been stopped as it is felt that the aims have been achieved. However a new project is being studied, from the point of view of social and cultural advancement.

In BELGIUM the B.R.T. broadcasts language courses : Flemish, French, English, and miscellaneous programmes grouped under the title of the University of the People, in particular, programmes of introduction to the Arts and Literature, to Natural History, etc... We must also mention a full-scale two-year chemistry course, established with the collaboration of the Federation of Chemical Industries and the Trade Unions, who ensure the « pupils' » attendance during working hours and organize practical exercises. This is an interesting innovation worth following.

The R.T.B. has broadcast English and Flemish courses, backed up by manuals, series of introductions to Arts and Sciences — for example, to spatial sciences with the collaboration of the Institute of Astrophysics of the University of Liège, and series of medical programmes with the collaboration of the four Belgian universities, and others.

Under the title « Kursprogramme » *German-speaking* SWITZERLAND has produced programmes on democracy, European history, relativity, and others, not to mention a French course and an Italian course.

The SCANDINAVIAN COUNTRIES have undertaken a study of the problem of adult education, in the methodical and serious-minded way which characterizes them. In 1966 the Sveriges Radio conducted a radio experiment on a series at university level devoted to social and political science; this experiment was described in the E.B.U. Review.

In DENMARK a specialized Commission was set up to consider the question as a whole and to propose the measures necessary for the creation of a truly educational radio and television service for adults. And as you know, having read it in the documents which have been distributed to you, this Commission published its first report a year ago. It will be completed by a second report next autumn. In close conjunction with this work, series of test programmes have been produced on television divided into three categories :

1. Vocational education : a series for farmers ;
2. Subjects of general interest : such as courses in languages, biology, chemistry, mathematics ;
3. Subjects concerning family life : ranging from children's education to the arts.

Other productions are going to be undertaken and tested on groups of listeners or viewers. All these projects have been approved by the Minister of Culture and the Minister of Education who, we may note with interest, will bear the financial burden of adult education by radio and television.

And now we come to GREAT BRITAIN where there has been spectacular progress between 1964 and 1966. The B.B.C. has created a new department, the *Further Education Department* which produces three main types of programme.

First type : liberal education, including series concerning :

- music, theatre, cinema, the arts ;
- education of parents, the family, old age, holidays;
- leisure, motoring, etc.
- the study of foreign languages;
- perfecting the native language.

Second type : higher education, including series

1. at university level (*not* direct preparation for exams);
2. for refresher courses for teachers — and in particular a series on programmed learning;
3. for refresher courses in other professions : doctors, engineers;
4. for white-collar workers.

Third type : technical, commercial and vocational education, including series on :

- specialization for technical college students;
- courses for stock-breeders and farmers;

— an introduction to careers in social work;
— courses for technicians in the building industry.

A similar situation at the I.T.A. which broadcasts 5 series on a national scale in its Sunday Session, every Sunday afternoon. Some of these series are repeated on Saturday morning or in the early afternoon.

Numerous other series are produced by the regional television companies in collaboration with the universities or the educational authorities.

We shall mention, by way of example :

— a course on the utilization of agricultural machinery, leading to a diploma;
— a series keeping doctors and surgeons informed of the most recent progress in their field;
— a series of information for primary school teachers on the new mathematics;
— a critical guide to educational films.

WEST GERMANY has made a considerable effort and, incidentally, a fascinating experiment.

I shall mention rapidly only the courses in French, English, Spanish and Italian — even though some of these are remarkable both by their effectiveness and their good humour — which are now broadcast by the stations of a number of Länder, in order to come straight to the programme launched in 1963 by the Bavarian 3rd channel. This programme, experimental at first, covered a wide variety of subjects, going from language courses to ski-ing, by way of legal questions concerning the family or a course on the history of the Etruscans. Three annual programmes have been broadcast in this way, each time including a linguistic section, a social section, an artistic section and a practical section.

This experiment has now taken shape in the *Telekolleg* which started last January. It is a far-reaching entreprise which seeks to give a methodical course of teaching which will lead to examinations recognized by the State. This teaching corresponds to the syllabi of the technical schools open to those who, at the end of their primary education, wish to improve their social position by means of further education.

The « Telekolleg » now consists of five basic subjects : German, English, Physics, Mathematics and History, including Sociology. Each of these will be the subject of 78 30-minute programmes spread over three years. There will be a large amount of accompanying material, consisting of work-sheets for personal work at home, lesson-sheets intended for written collaboration with the teacher during the programme and examination-sheets. Every three weeks the pupils will meet their teachers and, naturally, it is the State of Bavaria which will organize the meetings, hold the examinations and award the diplomas. Also, in addition to the subjects already mentioned, specialized courses have been arranged, leading to certain specific occupations : industrial design, commercial accountancy, company administration and others.

And we shall return for a moment to radio to mention that, since the autumn of 1966, the Hesse Station has been producing a comparable Funkkolleg. After two examinations recognized by the State, the pupils can pass a so-called « Talent » baccalaureat which enables them to follow technical or higher professional courses.

As we can see, the Telekolleg experiment deserves to be followed with great attention.

Without leaving Germany, let us talk a little about the Z.D.F. On the second channel, efforts have been made above all with regard to the ' school for parents '. In a first series of 22 programmes the problems of childhood were studied — brothers and sisters, neglected children, rewards and punishments, etc... A second series, constructed according to the same principles — alternating films and interviews — studied the problems of *adolescence.*

Previously, the Z.D.F. had shown a series of advice on careers which dealt with, grouped together in 11 main fields, the 600 or so occupations available to young Germans. Apart from these major series, we must mention many others, for example :

— 13 programmes on the origin of the world.

— 13 programmes on biology.

— 13 programmes on the sea.

— 26 programmes of French, and other, shorter, series on the history of the United States, the history of art, etc.

And we shall end with FRANCE. To limit things to essentials, let us say that the programmes which concern us may be put into two categories :

1. Information for teachers;
2. Lifelong education.

Belonging to the first category :

— the workshop of practical pedagogy for primary school teachers which started in January of this year with a series on the new mathematics, and

— information programme for secondary school teachers, dealing with new scientific subjects such as ' Mathematical workshops ' (Chantiers mathématiques), ' Technology ' (Technologie) and ' Physical sciences ' (Sciences physiques).

Belonging to the second category :

— the extremely lively and original programmes on French language called ' Discovering and uncovering words ' and ' Words for understanding each other ' (' A mots découverts ', and ' des mots pour nous comprendre ')

— a new series of introduction to economic life;

— a series of introduction to nuclear physics;

— a course on electricity;

— the well-established language-courses.

Let us also mention the courses televised from the National College of Arts and

Crafts (Conservatoire National des Arts et Métiers) which have just started on the second channel, and also more local activity, now taking place in Brittany — special programmes for country districts.

Finally, let us stress a special undertaking : information for the medical profession with regard to recent advances in medicine, by means of programmes broadcast outside regular programme-hours and at times known only to doctors. This avoids the necessity for broadcasting coded programmes.

This then, ladies and gentlemen, is the balance-sheet which we have been able to present to you.

We have endeavoured to omit nothing essential, although it is certain that we shall not have succeeded.

We have restricted ourselves to an objective and very bald account, believing, perhaps wrongly, that it would be more eloquent than personal considerations.

This account shows :

— that educational radio and television have made constant progress in Western Europe and occupy, today, a large amount of broadcasting time;

— that nothing which is human is foreign to it, and that its increasingly varied and flexible methods are henceforth capable of serving the most subtle and the most delicate subjects : philosophy, sexual education;

— that it brings irreplaceable help to traditional teaching, and that it is even capable of replacing it where it is lacking, or of compensating its weaknesses;

— that it shows itself to be the most rapid and powerful means of informing a large group of people about recent advances in science or pedagogy;

— that it is ready to play its part within a civilization where, on one hand, leisure is increasing, and on the other, the necessity of what has been called ' integrated continuous education ' is becoming clear.

And if much remains to be done, everything seems ready now, to do it...

Perhaps not everything.

I should like, here, to express, in parenthesis, a personal opinion. Our organizations in Western Europe are perhaps not sufficiently open to international collaboration — at least in the educational field which concerns us here. This comes no doubt from the over-scrupulousness of our educators, from a striving for perfection which leads them in spite of themselves into a certain nationalism.

But there are too many needs in the world to allow one to be satisfied with a selfish attitude.

It is clear that, with the exception of certain specialized services created for this purpose, such as C.E.T.O. or O.C.O.R.A., which will be discussed at length in the report by Commission III, our productions are not conceived for international use.

In this age of satellites, however, we ought to be thinking in these terms. Europe has a part to play in this field, a much bigger part than the one she is playing at the moment. Let us have the courage to say that we are asked to do this and we do not answer. This is very serious, and it is important.

Finally, since we have touched on the international scene, we must not forget to report, or to remind you of some essential facts. First of all, the creation in April 1965 of an International Central Institute for Television for Youth and Educational Television in Munich, attached to the Bavarian Broadcasting Service. Its aim is to collect and classify an international, specialized documentation, texts of programmes, supplementary material, and even a collection of model programmes.

In the field of educational radio and television, the Council of Europe has pursued a course of action begun long ago and very well known. It has set up a vast survey, which is not yet finished, into the perpectives of the uses of radio and television for educational purposes beyond 1967. This will rely on other, more limited studies, one of which deals with the educational and cultural uses of television in Europe and with the relations between governments and television authorities in this respect. The Council has undertaken the elaboration of a multilingual vocabulary of the terms used in educational radio and television.

An international seminar on televised autonomous courses was organized under its aegis in Rome, in 1966, and enabled interesting conclusions to be drawn. But it is impossible to mention everything in a general report like this.

It remains only to point out something which concerns us all very directly, the many activities of the E.B.U.

But at this point, with your permission, to end this session, I shall hand you over to Mr. Hahr, the Director of the Administrative Office of the E.B.U., who will summarize for you, far better than I could, the activities of our association.

Henrik Hahr

Director of the Administrative Office of the E.B.U.

Tasks of the European Broadcasting Union

As you will have noticed at the E.B.U. stand in the Conference hall, the tasks of the E.B.U. and the other regional broadcasting organizations are numerous.

Concerning the activities in the field of programmes, and more particularly those of an educational nature, I would like, upon the invitation of M. Kammans, to present to you some of the aspects of our work.

In the course of periodic meetings, two standing programme Commissions for radio and television (composed like the other standing committees of representatives of member organizations) formulate recommendations and make the necessary decisions for the organization of international transmissions, co-productions, the exchange of programmes and newsreels.

We may include here multilateral transmissions on the european television networks known to you under the name of Eurovision, as well as intercontinental transmissions, by satellites. There are also quite a number of exchanges of recordings of radio and television programmes and films not to mention the regular organization of screening sessions which act as a market and the organization of vocational training courses, personnel exchanges and assignment, on request of E.B.U. experts.

It is one of the main tasks of the Commissions to assist certain permanent services of the E.B.U., the Administrative Office, the Department for Legal Affairs in Geneva and the Technical Centre in Brussels, in finding methods of sharing the cost of these joint activities, and in preparing the appropriate recommendations. You will be aware, ladies and gentlemen, that some difficulties are involved here. But generally speaking, the results are satisfactory.

The programme Commissions work in close cooperation with the other two standing Commissions of the E.B.U., the legal and the technical Commissions.

These Commissions submit their reports to the Administrative Board and to the General Assembly. Each Commission may, if need be, set up study groups of experts in specialized fields. The Sound Broadcasting Programme Commission relies mainly on small working parties. In the Television Programme Commission, there are several groups of experts, as for instance, the Planning Group which prepares television programme projects. In this respect, I might refer to the transmission scheduled for the 25th of June, entitled *Our World* which will make use of the total present system of satellites and which will be relayed live by some 28 television organizations throughout the world.

Moreover, the Planning Group handles all problems referred to it by the Commission, as well as problems of any urgency. There is also a group responsible for newsreel exchanges, a group for rural programmes and another one for programmes aimed at young people and children.

The main objectives of the study group on Teaching by Television presided over by M. Kammans are to examine all kinds of school education by pictures as well as possibilities of more advanced education for children and adults. This last point, *i.e.* the interest taken in adult education by television, seems to me now to be particularly important.

The activities of the Planning Group also cover all the aspects of cooperation; it organizes production of a complete series of programmes dealing for example, with geography and mathematics. It envisages, after a preliminary inventory, the exchange of short sequences in the field of science, more particularly, in microbiology. This study might eventually lead to exchanges between the E.B.U. and other regional Unions or vice versa.

The Planning Group also organizes screening sessions of programmes for schools and for adults, for the purpose of exchange or as demonstrations.

One of the most interesting results obtained by the study group on Teaching by Television was and is a series of training courses aimed at producers with a certain experience in school television. These courses (known as the Basel Seminar) and impeccably organized by Mr. Tappolet, of the Société suisse de Radiodiffusion et Télévision, were started in 1962.

Some details; 32 participants, who represented some 20 organizations from 18 countries of Europe, Africa, Asia and North America, attended the first time. They had the opportunity to view various programmes of different types, origins and conceptions. Thirty-three programmes, or excerpts representing more than 12 hours of viewing were presented in one week. Sixty auditors also attended this first seminar. The second seminar, also in Basel, was held in December 1963; 36 participants from 18 countries were present as well as some observers who listened to the general lectures and viewed 41 school television broadcasts or re-casts. Among the lectures we will mention those dealing with the teaching of mathematics, science, foreign languages, the production of a school television broadcast, etc.

In September 1965, a third seminar was held in Basel for producers and directors of school television. Fifty participants from some 20 countries and representing 23 member organizations as well as 35 observers attended this international meeting. Lectures, accompanied by numerous screening and demonstrations, successively deal with literary and scientific subjects at the elementary, secondary, pre-university and university levels.

In addition, four groups of different languages did the following experiment : Each of them prepared a school television programme on geography aimed at pupils between 10 and 12 years of age. The subject chosen « Basel, a great river port » was produced with the aid of rushes and studio-shot sequences. The four recorded programmes were later projected in plenary session.

The fourth seminar, extended to cover the wider field of adult education, was held in Basel between the 30th of November and the 17th of December 1966 with the participation of the delegates, active and associated members of the E.B.U., experts on educational television and quite a number of producers, directors, trainees and observers.

These personalities had been recruited or invited according to their professional qualifications and to the desire they had expressed to widen their knowledge and to complete their training on the occasion of this wide international encounter.

Among the observers present, were those representing organizations such as the Union of National Radio and Television Organizations of Africa, (U.N.T.R.A.) the Asian Broadcasting Union (A.B.U.) and the International Radio and Television Organization (I.R.T.O.).

In all, the seminar grouped 10 animateurs, 40 trainees, and 30 observers and auditors from 20 countries. The items on the agenda were entrusted to four groups, two of which were English-speaking, one French-speaking and one German-speaking. Each group had a rapporteur who was to report on the programmes screened the day before. These 40 screenings dealt in particular with the teaching of the native language, economic and financial problems, vocational training, technical questions, family problems and cultural life.

Thus, you see, ladies and gentlemen, in the last five years a veritable international school for producers and directors of school television and adult educational programmes has been set up in complete accordance with the present developments in modern mass media.

I would like, Mr. President, to conclude this brief report by a general observation on the activities of the E.B.U.

It is a fact that all members of the E.B.U., whether active or associated (there are at present almost 40 associated members from 5 continents), have the same right to submit their particular problems. A request from an associated member on, for instance, educational radio and television, is studied with the same care as one coming from one of our active members in Western Europe.

The E.B.U. will do its best to appeal to the highest professional qualifications and to establish the necessary contacts. It will try, as far as possible, to extend the full benefits of its organization to all who wish to use them. Allow me, Mr. President, to mention once again the friendship of the radio and television organizations that are represented on the different Commissions.

Recent developments of educational radio and television in the member Organizations of the I. R. T. O.

Saturday, March 18th, 1967

It was the task of Messrs. WLODZIMIERZ SOKORSKI

President, Polskie Radio i Telewizja and President of the I.R.T.O.

BUDIL

Ceskoslcvensky Rozhlas

NICOLAS BIRUKOV

Member of the Direction of the State Committee for Broadcasting and Television and Chief Editor of Television News U.S.S.R.

who were the rapporteurs of the groups of television experts presided over by

GYORGY SANDOR

Editor-in-Chief of Educational Programmes, Magyar Radio es Televizio — Hungary

to assess recent developments of Educational Radio and Television in active member organizations.

You will find in Chapter 5, a list of descriptions of activities established by the various organizations.

Wlodzimierz Sokorski
President of the I.R.T.O.

Tasks of the International Radio and Television Organization

My report will be devoted to the activities of the International Radio and Television Organization and its member organizations in the field of educational television.

Our association groups 23 organizations from Europe, Asia, Africa and Latin America; its aim is to contribute to the development of radio and television broadcasting through international cooperation on the programming as well as the technical level.

To this end, the I.R.T.O. organizes exchange of information, experiences and programmes and also co-productions; it organizes contests and international festivals and has created an international system of exchange of programmes and television newsreels, 13 European television organizations participating. Legal and technical problems are studied with a particular view to facilitating international exchanges of programmes. Special committees are entrusted with these studies;

— The Intervision Council;
— Sound Broadcasting Programmes Committee;
— Television Programmes Committee;
— Technical Committee;
— Legal Committee.

They set up groups of experts to study specific problems and to formulate concrete recommendations.

According to its statutes, the I.R.T.O. is a democratic international association grouping independent radio and television organizations without any political or geographical discrimination.

The I.R.T.O. is in fact a professional organization aiming at wide international cooperation. This is why it has established friendly relations with other national, regional and international organizations active in the field of sound and television broadcasting.

The I.R.T.O. is cooperating fruitfully with its partner in Western Europe, the E.B.U. An ever closer contact on the programme level is being achieved between Intervision and Eurovision; thus millions of television viewers in both parts of Europe are able to follow news and other programmes of outstanding interest.

Our organization has also established friendly relations with the U.N.T.R.A. and has made contributions to programming by the independent radio and television organizations of Africa, on a content as well as technical level.

We also have a healthy system of cooperation with a number of organizations in Asian and Latin American countries. Here, we should not forget the remarkable role played by the President of the Asian Broadcasting Union (A.B.U.), Mr. Maeda in the development of this international cooperation. The I.R.T.O. actively cooperates with U.N.E.S.C.O. the U.N. and other international organizations. That is why the I.R.T.O. was pleased to learn of the decision taken by the O.R.T.F. and our colleagues of the E.B.U. to call conferences devoted to the problems of educational radio and television.

We think that these meetings are very useful to international cooperation and contribute to a favourable broadcasting climate. As you will see in the reports that follow the radio and television organizations associated in the I.R.T.O. pay great attention to educational broadcasting. We do not limit education through radio and television to school programmes. The educational aspect is the fundamental principle of the programmes broadcast by our radio and television organizations.

Consequently, these questions are foremost in the activities of our organization. Within the framework of our programmes committees, we have created working parties specialized in educational programmes. These parties have prepared the reports which Mr. Budil, and Mr. Birukov are going to present to you.

M. Budil
Ceskolovensky Rozhlas

The development of educational programmes in I.R.T.O. organizations

The flow of ideas and information between science and everyday life is said to have multiplied a hundred times in the present century. This has led to an extremely difficult situation in communications compared with which the biggest pile-up of cars on a highway would be a mere nothing. On highways in cities we seek a solution in ingenious and costly construction projects. But do we make sufficient effort, and invest enough means for transmitting the ideas of science to the widest possible public?

It is precisely my task to give you an idea of the attention which broadcasting organizations — members of the International Radio and Television Organization — devote to educational programmes. This, as you can well understand, is no easy matter. Above all, it is not easy to arrive at general conclusions concerning educational activities in a number of countries which, while they have much in common, also have many individual specific features, due to different traditions and different social developments.

That is why I should like to confine my remarks to two groups of problems. In the first place, I should like to mention certain features of the trend of development of educational broadcasts in the I.R.T.O. organizations, and secondly, I should like to tell you what the I.R.T.O. is doing towards developing international co-operation in this field.

I

Concerning the first group of questions :

1. In connection with the social changes that have taken place in the majority of our countries since the second world war, the educational role of broadcasting has

considerably increased. For this reason, many new programmes and series of features popularizing the findings of natural and social sciences, and helping people to take an active part in bringing about these changes have been introduced. In these broadcasts we aim at preparing the younger generation as well as adults for the demands made upon them by the development of science and culture, and guiding them in the spirit of the love of mankind and towards creative work.

The broadcasting organizations of our countries have at the same time been trying to use their own traditions as a basis and to develop them by means of varied and well planned educational programmes. In the majority of our countries, this includes broadcasts for children and young people, programmes aimed at popularizing science and technology, special broadcasts for workers in agriculture and industry. (The majority of our radio organizations have special and rather large series of agricultural and industrial broadcasts.) The systematic teaching of foreign languages as well as programmes concerning the improvement of the mother tongue, educational programmes dealing with the arts — literature, music, the theatre, films and creative arts — are also broadcast.

New attempts to enliven and modernize educational programmes have been made in recent years since our societies became fully aware of the extent of the scientific and technical revolution at the threshold of which we are standing. This is both a quantitative and qualitative development. Educational programmes are differentiated for different groups on various networks.

The development of educational programmes in the countries, whose organizations are members of the I.R.T.O. has the full support of governmental bodies. In a number of producer countries there are close contacts between the producers who prepare educational programmes and Ministries of Education. For example, in Bulgaria, the Ministry of Education together with radio workers keep check in two chosen schools on the educational value of the programmes and the Ministry makes a financial contribution to this work. They also organize nation-wide teachers' conferences which evaluate school broadcasts. The Hungarian Radio, together with the Ministry of Education, investigates the reaction of children to broadcasts listened to in classes. In Rumania, there are joint Commissions composed of research workers and experts of Rumanian Radio and Television, the Ministry of Education and the Pedagogical Research Institute.

We must also pay tribute to the interest shown by higher scientific institutions in the educational work of broadcasting organizations. This is, of course, natural, for increased public interest in science helps to create a favourable atmosphere for the further development of science and scientific work as such. In Czechoslovakia, the supreme scientific institution, the Academy of Sciences, which is an advisor to the Government on scientific questions, highly appreciates this work by offering annual prizes. In Hungary, a scientific competition has been announced this year with a view to establishing the best method of using broadcasting for teaching purposes.

2. In comparing the programmes which come under the heading of « educational » in various countries, we immediately come up against the difficulty of determining their exact limits. The organizers of this Conference have laid down four characteristics which should apply to programmes of the kind we wish to speak about. Life, however, is more multiform, and, therefore, it is all the less easy to put them into practice. For example, in some of our countries, it is difficult to define the exact border between educational programmes and popular science features. The contents of individual educational programmes also include certain « by-products », a sort of fall-out, for example, the struggle against the persisting belief of the lay public that science is still what it was in the 19th century, quite simple and without equipment. Under the circumstances, even in purely educational programmes, we aim at increasing the prestige of science among the wider public and, at the same time, in purely informative programmes, we try to show the great importance of scientific work.

In our countries we try to apply both tendencies, sometimes separately, sometimes together. Naturally, it is more apparent in a programme which aims at deepening the knowledge of average listeners than in post-graduate courses for teachers.

There are, of course, programmes combining all four characteristics. There are series of programmes based on auxiliary materials, programmes aiming at progressively imparting knowledge of a subject, counting at the same time on their being supplemented by the experience of the listeners themselves, which means that these programmes must be actively followed and the results verified in practice by various methods, for instance by asking listeners to answer questions. Naturally we also have educational programmes which we consider to be educational even though we deliberately reject certain of these characteristics which might give the listener the impression that we are « giving him a course ». In an interesting Polish paper, submitted to this Conference, while speaking about programmes devoted to social problems, it is said quite plainly that these characteristics of a so-called educational programme are rejected in all materials devoted to philosophy, history, law and health. In certain I.R.T.O. countries it seems that under present circumstances, it is more important for broadcasting organizations to carry programmes encouraging listeners to at least start looking for other sources of supplementing their education than to have programmes that comply with all four characteristics of the strictly educational programmes.

On the other hand, there are broadcasts based exclusively on school curricula, such as, for instance, the Rumanian series entitled « Radio Editions » following up in 20 to 24 minute transmissions the entire curriculum of the faculty of philology.

Some people think that, in practice, any programme which pursues the objective — either exclusively or for the most part — of extending the knowledge of listeners in technology, natural and social sciences, including the arts or cultivating the taste, is educational. Educational programmes are then divided into occasional ones (informative and analytical), regular (series of generally educational and cultural programmes), programmes using elements of entertainment and, finally, courses of lectures and serial programmes.

3. In the schedules of I.R.T.O. broadcasting organizations, educational programmes occupy, as we have said before, a very important place.

Special attention is devoted to programmes for children and youth. In the Soviet Union, all national networks broadcast ten hours a day for young people. Teachers in the various regions of this vast country try to overcome difficulties caused by the time-difference by recording these broadcasts on school tape-recorders. Moreover, in 1965, 40,000 records containing lessons on literature were produced; this year, a second edition of these records comes to Soviet schools. Language courses for children, in French, English and German, are particularly extensive, and so are programmes devoted to geography, chemistry, physics, biology and astronomy. What is typical for other countries too is that these youth programmes are very popular with adults as well. To give an example, I could mention the talks on music given for several years by the composer Kabalevsky, primarily addressed to young people, but highly appreciated by adults as well. Rumanian stations broadcast weekly 31 transmissions totalling ten hours' air time. In Bulgaria, there are 36 hours per week for children and youth. In Hungary, 66 hours educational broadcasts per month. Certain broadcasting organizations also endeavour to enrich the knowledge of children and youth by competitions in geography, history, physics, etc. such as the U.A.R. Broadcasting Corporation.

Great attention is also devoted to language courses. Individual broadcasting stations usually broadcast several language courses, sometimes as many as four. It is also interesting to note the success achieved by the U.A.R. Broadcasting Corporation with the course of Arabic intended for foreigners living outside the Arab world.

Programmes popularizing science and technology are among the most extensive. The Deutschlandsender broadcasts thirteen hours per month of such programmes and the Berliner Rundfunk eight and a half hours of lectures and discussions on science, medicine and health care. In Rumania, there are 25 hours per month of popular science and technology programmes.

Educational programmes in the sphere of the arts also occupy considerable time. There are programmes aimed at encouraging the listener to think independently about himself, the world at large, the society in which he lives, and informing him about life in other countries.

A chapter in themselves are special programmes for industrial and agricultural workers. In Poland, two educational programmes for agricultural workers, namely "the Morning Agricultural Magazine" and "Scientists to Farmers", have become extremely popular. In Poland, the U.S.S.R., Rumania, Czechoslovakia, Hungary and Bulgaria, broadcasting organizations are endeavouring to improve the professional knowledge of workers in the field of economy and scientific management, so that broadcasting should contribute to implementing the new conception of the managing of the national economy. A popular agricultural technology programme, organized as a study circle for discussing farm problems has been broadcast by Radio Rebelde of Cuba since December 1966.

4. Let us now discuss another problem, namely, the differentiation of the level of the programmes and their preparation for listeners with a certain degree of education. In certain countries, very little attention is paid to differentiation, in others we see three or four firmly established levels. Thus, for instance, the Polish Radio distinctly separates educational programmes intended for the general public from programmes intended for people with at least middle school level, and from programmes for listeners with secondary or higher education. In Hungary and Czechoslovakia there are, for instance, three levels. An example of the second level of programmes is the Radio University broadcast on the Czech national network since 1947 as a six months' course on the development of a particular branch of science. It is intended for people with secondary education or highly intelligent people with rich experience. (At the moment there is a course entitled « Biology 1967 » which discusses questions such as the genetic code, molecular diseases, tissue cultures, cells and information).

Differentiation of programmes depends, naturally, on whether the various broadcasting organizations primarily want to supplement general education, or — and this is more rare — to deepen the knowledge of experts, or to what extent they want to combine both.

5. All educational activity carried out by means of broadcasting is, of course, determined by the situation existing in the various countries. This situation is specific to a certain extent and, moreover, dynamic. Whereas before the war in certain of the countries, whose organizations are members of the I.R.T.O. there were about 100 graduates to every 100 000 inhabitants, there are now thousands. The level of general education is also changing and anything connected with education is changing too. In Bulgaria, at the present time nearly every fourth person follows a study course, either by ordinary school teaching or by correspondence.

In addition to this, the various countries have well established, even if substantially different, educational systems, free correspondence courses, people's schools of arts, cultural institutions, libraries, lecture and discussion courses, organized by trade unions and other organizations. There are also nationally organized and financed institutions for extra-mural adult education.

There are also two ways of looking at the environment in which educational programmes should be listened to. Whereas educational programmes for children are traditionally meant to be listened to at school, there are broadcasting organizations, for instance those of Bulgaria, the U.S.S.R. and Rumania, which maintain that educational programmes for children should be listened to at home. Their programmes are based on the school curriculum but they are broadcast at a time when the children are doing their homework.

6. Recently, broadcasting organizations in our countries have been devoting increased attention to the study of the educational process promoted by broadcasting. For instance, in East Germany investigations have been made into the popularity of scientific educational programmes : 46,1 % of men and 30,1 % of women said they liked them. Investigations were also made into the popularity of these programmes in various age groups and among intellectuals.

In Poland, as far as agricultural workers are concerned, broadcasting is their second main source of information on new findings of agricultural science and technology. One questionnaire sent out by Polish Radio aimed at ascertaining what Polish listeners expected from educational programmes : 63,5 % want advice for their work, 33,3 % want to be acquainted with outstanding scientific achievements and 25 % want to increase their knowledge of various branches of science. As a result of an investigation carried out by the Hungarian Radio it appeared that school broadcasts were followed by 61 % of Hungarian schools. In Rumania, investigations have been made into the influence of educational broadcasts on the progress of school children and their intellectual level. Toward the end of the year, the Cuban Institute of Broadcasting set up a Department of Education and Culture to analyse existing programmes and to organize new educational series.

More extensive investigations are being prepared. In Czechoslovakia, for instance, there is a vast project which should serve as a basis for the new conception of the radio educational system for adults and children on the Czech networks. It consists of several stages, namely, an analysis of the materials now broadcast according to the various subjects, networks, the educational level of the listeners for whom the programmes are intended, the times of broadcasting, the person presenting the programme, the form of the programmes. etc. A further stage is to be an analysis of the work carried out by the various production services, as well as an analysis of the trends of development of science and technology for the next few years, and of what this would mean from the point of view of demands on adult education. This pre-supposes ascertaining the present level of knowledge of our listeners, and of their opinion on educational demands and their own requirements.

From the findings of this investigation, the proportion of subjects, the basic types of the programmes required, the role to be played by the various networks, etc. will be established. The role and the form of contacts with listeners also requires investigation. Furthermore, the connection between national educational systems for adults and educational broadcasts must be considered from the point of view of the relationship between various media of communication, in particular with television. This project will probably result in increased demands on the level and the number of educational programmes.

II

The International Radio and Television Organization devotes untiring efforts to the development of international co-operation in the sphere of educational programmes. The Sound Broadcasting Programme Commission in which all I.R.T.O. members are represented, co-ordinates all programme work. It has permanent groups of experts and groups ad hoc. The science and technology working group has been active for many years. The working group for youth and children's programmes has also been meeting regularly. It has discussed questions such as the aid of broadcasting to schools, the role of broadcasting in the extra-mural education of children, children's art and the participation of children in the creation of children's programmes, programmes for pre-school children and the education of the younger generation as good citizens. This group has also elaborated an international series of programmes entitled « Humanist Education of Children and Youth ». Special conferences of producers of youth programmes have been devoted to problems of young people and to topical questions of youth programmes with a view to an international exchange.

The permanent group of music experts also deals with musical educational programmes and organizes listening to the best of these programmes prepared by I.R.T.O. members.

A conference of experts of agricultural and industrial programmes of I.R.T.O. member organizations was devoted to exchange of experience in this field and contributed to the international exchange of this type of programme.

As a concrete example of international co-operation between I.R.T.O. members, let us mention the exchange of popular science and technology programmes. This exchange is two-fold : regular exchange of materials and information and annual meetings of popular science and technology programme producers, at which they acquaint each other with the work of their section during the past years, new types of programmes introduced and their future projects. It is a particularly fruitful part of our work. Naturally, we cannot use everything because of the differences and specific characteristics, but the possibility of systematic comparison helps to improve the general level of educational programmes and is, therefore, very useful. Sometimes the delegates report on certain theoretical problems, for instance at the last meeting, the Soviet representative spoke about the forms of educational programmes in his country and the role of sound in them.

The exchange of popular scientific programmes — I.R.T.O. Radio University called « Science for Peace » was inaugurated in 1957. Its main objective is the exchange of materials giving information on the results obtained by outstanding scientists of the various countries. « Radio-Sorbonne » speaks to students and others with higher education. The « Science for Peace » programmes are intended for the general public .The programme exchange plan includes 60 to 70 topics per year. The I.R.T.O. Radio University is open to all broadcasting organizations wishing either to receive its programmes or to send their own contribution. To all broadcasting organizations are also addressed two suggestions of the Rumanian Radio and Television Service, namely, the creation of a « Golden Sound Library » of tape recorded voices of outstanding personalities of world science and culture, and a planned exchange of broadcasts connected with the International Tourist Year 1967, as required by schools and universities, promoting a better understanding of the geography, history, arts and literature of other countries. Apart from this, the I.R.T.O. endeavours to extend co-operation with African countries. A series of 60 popular science programmes has been prepared under the title « I.R.T.O. Radio School » intended for African broadcasting organizations. It includes programmes on the universe and the earth, the origin of life on our planet, on nature and its forces, on health care and man in general, on his work and his place in society. French and English scripts of these programmes have been sent to all organizations in independent African countries.

While the I.R.T.O. endeavours to co-operate with all international broadcasting organizations, individual member organizations maintain extensive bilateral contacts with other broadcasting organizations in the world. On the other hand, the I.R.T.O. always strictly adheres to the principle of full freedom of participation in all programme exchanges it organizes and encourages.

Thus, our work is entirely in keeping with the spirit of the Appeal adopted by the XVth General Assembly of the United Nations, inviting everyone to educate the younger generation for peace, progress, mutual respect and friendship among peoples.

Nicolas Birukov

Member of the Direction of the State Committee
for Broadcasting and Television — Chief Editor,
Television News — U. S. S. R.

Educational television broadcasts of Intervision member organizations

It is for me a great honour and simultaneously quite a difficult task to explain to you the educational mission of television organizations, affiliated to Intervision. After the World Conference held in Tokyo, *i. e.* after 1964, we have seen an expansion of this activity. These years were marked by a speedy development of television in our countries. Scores of new stations have been put into operation and millions of new television sets enabled millions of television viewers to follow television programmes. It is necessary to stress that the expansion of educational broadcasts was most remarkable in the framework of the general development. It is a fact which has its specific causes that, with your permission, I shall explain later.

In the first place, you will certainly be interested in what branches and subjects we teach with the aid of television. To answer this question I shall first speak of school and educational broadcasts and then I shall try to describe our experiences, viewpoints and problems so that our report may really contribute to a large exchange of opinions on the international level. This will allow us to seek together solutions to our similar or common problems.

I. SCHOOL BROADCASTS

In our countries we have, in general, the following types of schools :

Nursery schools (from 3 — 6 or 7 years of age) for some of the children who are systematically prepared for school education.

General schools (on the level of primary and lower secondary schools) (from 7 or

8 — 14 or 16 years of age). Both in towns and villages, these schools are compulsory and free of charge for all children. Their task is to give all children the basis of general culture.

Secondary schools (from 14 — 15 to 18 years of age). They include vocational schools, secondary schools, polytechnical secondary schools, studies being concluded by a leaving examination.

Universities.

Television deals with all the above-mentioned types of schools. A great majority of broadcasts are of a complementary educational character. These broadcasts do not replace the contents and methods of education provided at schools, they enrich and expand it. In general, a close co-operation between television and school is characteristic of these broadcasts. What is the basis of this? First of all, the fact that the system of education in most countries is uniform and that the educational syllabi and uniform text-books allow the programmes, the method and transmission times to be coordinated. The series of broadcasts serve in general to assimilate, motivate and develop the school programme and, sometimes, to complement a subject as it is taught at school.

Now let us have a look at some of the series. We shall select our examples chiefly from the work of the current school year.

1. *Broadcasts for nursery schools.*

Every week in the morning Czechoslovak Television transmits a 30-minute programme intended for the smallest children. In nursery schools groups of children follow the broadcasts together; the broadcasts contain practical knowledge and artistic productions.

2. *General schools.*

a. Broadcasts for children from 7 — 10 years of age :

It is necessary to mention these broadcasts in particular, because on the international level higher classes are more favoured than lower ones. However, our experience has clearly shown that pupils of lower classes have a great interest in television. And for them it is easier to introduce a television broadcast into the school timetable (in the presence of a teacher). At this level we start to teach children to watch television and get them used to television. The broadcasts are especially effective in the following subjects : natural sciences, social sciences, knowledge of the country, circulation, hygiene, aesthetic education (painting, singing). The individual broadcasts last in general 15 — 20 minutes.

b. Broadcasts for pupils of higher classes : Most broadcasts are intended for age groups that need to see the pictures from the individual branches (physics, chemistry, geography, etc.) and to present the most recent methods and results in these fields.

For instance, the Polish and Yugoslav television organizations have acquired much experience in this category. Polish Television deals with a great number of subjects. This year it is devoting the greatest attention to the 8th class. After the educational reform in Poland this class has become compulsory for all children of the corresponding age and some 200 broadcasts will help teachers of lower secondary schools during this school year.

A similar number of broadcasts is transmitted for children of this age by the Hungarian School Television Service, launched in 1964. Here, another attempt deserves attention. Pupils in class 5 give educators a lot of trouble, because it is at this age that pupils previously guided by a single teacher are taken in hand by secondary school teachers.

The number of failures is higher and there are many pedagogical problems. For this reason, the Hungarian Television Service prepares broadcasts, complementing all subjects taught at school and seeking the best way of helping to solve the above-mentioned problems. For other classes, natural sciences broadcasts above all are prepared.

3. *Secondary schools.*

Secondary schools receive complementary broadcasts on various subjects. Besides subjects already mentioned we must add the following : philosophy, student magazine (Polish School Television), language courses (Hungarian School Television).

The broadcasts are transmitted during the classes in such a way that the teacher can prepare students before the transmission (5 — 10 minutes) and discuss with them the essential points after the broadcast. Teachers know in advance the annual plan and the permanent hours of broadcasts.

The Rumanian Television Service has prepared an extensive programme of school television in co-operation with the national Ministry of Education. The students do not follow the numerous school television broadcasts during their classes, the broadcasts being transmitted in the afternoon and evening. Nevertheless, we can consider them school broadcasts because teachers, too, take into account the fact that students follow them. Furthermore, the subject taught at schools is the starting point of school broadcasts, illustrating chiefly elements of economic-social life. Every week Rumanian School Television transmits seven 20-minute broadcasts for lower grades and six 30-minute broadcasts for higher grades (10 — 15 years of age). Here are some titles of broadcasts intended for lower grades : « Do you know how to recite? », « A trip to the past », « How is a book made? », « My village », etc. From among broadcasts for higher grades let us quote : « A thousand and one questions », « Physics, chemistry, mathematics », « A trip in the book country », « Rumanian literature », « World literature », « School anthology », « Our picturesque country », School and traditions », etc. The Rumanian Television Service also prepares broadcasts of an educational character intended for pupils of secondary schools and universities such as « Youth classes », « Alma Mater », « Evening meetings », « Adolescence », etc.

School broadcasts with similar objectives are transmitted also by other member organizations (Bulgaria, Poland, Hungary, the U.S.S.R., East Germany).

4. *Universities.*

As in the whole world, the number of university students is rapidly growing in our countries. In many branches, the number of regular students is exceeded by that of students who follow correspondence or evening courses (being assured substantial advantages by the labour regulations code). Television's assistance to universities is directed especially to these students.

This year has seen several ventures in this field that are worth mentioning.

The third network of Soviet Television has a large programme of higher education, namely :

a. Preparation for universities : this series is intended for those who have interrupted their studies and seek admission to the university education.

b. Broadcasts for technical universities : these broadcasts are intended for students of correspondence and evening courses.

These broadcasts include richly illustrated lectures by the best experts.

The Polish Television has also a series for university students; entitled « Polytechnical Television » it is intended for students of evening and correspondence courses. The various polytechnical schools in Poland have an identical programme in the first four semesters. Here the demonstrative character of television is manifested very clearly. The Polish Government and U.N.E.S.C.O. have signed an agreement according to which the data on the experiences acquired will be transmitted to U.N.E.S.C.O. The themes are based on the curricula of compulsory schools but contain only its most essential and difficult parts.

II. ADULT EDUCATION

In the field of adult education the activities of our television organizations are, if possible, even more variegated than in the field of school broadcasts. In our countries various organizations deal extensively with adult education and vocational training. On the one hand, our work is combined with the activity of these organizations, and on the other it exceeds the framework of traditional education.

The most important broadcast of the Television Service of East Germany is the « Television Academy » which has been transmitted for several years and achieved remarkable results. Its importance was increased by the fact that in 1962 the government recognized this form of education as a national institution of adult education. This means, among other things, that those who follow the « Television Academy » courses can pass examinations at specialized institutions and obtain a certificate. The Television Academy has achieved its best results in the field of science. Ninety-five lessons on mathematics (lasting 45 minutes each), 85 lessons on physics and 55 lessons on chemistry were transmitted in the period between March 1961 and July 1963.

Cuban Television transmits educational broadcasts guided by the Ministry of National Education. These broadcasts include a series on agriculture, series entitled « Popular Institute of Technology », « Space and time », etc. The aim of these broadcasts is to arouse public interest in problems of science, art and history by an encyclopaedic series, produced in an interesting and entertaining manner. Experts cooperate with the television on the preparation of these series and contribute, either individually or through the institutions employing them, to raise the cultural level of the people. The Academy of Sciences and Havana University participate chiefly in the preparation of the series « Space and time ». These few facts give an idea of the place accorded by the « Instituto Cubano de Radiodiffusion » to education in its programmes.

Rumanian Television has a large programme of adult education. The subjects dealt with are varied : « Polytechnical University » (metallurgy, economy, chemistry, physics, building), « Rumanian history » (its documents, events, as well as historical places and personalities), « History of the theatre », « Television Encyclopaedia », « Television globe », etc. Altogether, Rumanian Television transmits five hours of educational broadcasts a week. From a pedagogical point of view, the most attention is deserved by series prepared for certain groups of farmers, workers or members of the intelligentsia, serving to complete or improve their knowledge in a special field.

Intervision organizations also cooperate in the preparation of an educational series entitled « Progress », presenting the most recent scientific discoveries. This series included, among other broadcasts, a Yugoslav contribution presented to the seminar of the Conference. In addition, Intervision also organizes live relays from museums, art galleries, theatres, etc., which may be classified as educational broadcasts.

In recent years the interest of adults in foreign languages has grown. These language courses are intended chiefly for adults, but they are frequently used by schools too. Language courses form an integral part of educational television.

Bulgarian Television transmits English and Russian courses. The Bulgarian, Hungarian and Polish television organizations use the British series entitled « Walter and Connie ». All the three organizations transmit Russian lessons prepared by themselves. Both courses for beginners and advanced students are organized.

III

The above enumeration does not exhaust the subject of adult education. We hope, however, that we have succeeded in giving you a general idea of our activities.

Educational experts in different countries are ever more aware of the fact that education is undergoing a revolutionary change nowadays. It is necessary to solve the task of providing systematic and continuous instruction (called also permanent education) for an ever growing number of people while the amount of material to be taught is quickly growing too. These new requirements are the result of the scientific-technical revolution which is under way. Old educational methods are no longer sufficient. Television is the most important modern demonstration medium. Television is neither the sole nor the most important means of direct education, but due to its numerous advantages (didactic, economic, etc.) it is a medium whose importance is ever growing and ever more expanding. In our opinion its role rests chiefly in an active participation in the solution of problems of modern education.

IV

Numerous experts from our countries do not agree with those who contend that television can play only the role of « demonstrator » and who appreciate only the variegated demonstrative possibilities of television, saying that television can only provide information and cannot play the role of a teacher or develop intellectual capabilities. We think that a television broadcast can teach and educate. We also believe that it is in conformity with the demand of the student television viewer of high-quality broadcasts.

Which elements can make the broadcast attractive for the television viewer? We think that a broadcast which makes us think of its contents can create the experience of a live impression (intellectual joy), as an artistic performance creates a live aesthetic experience.

Let us consider first the problems raised by the method which makes us think. They are raised in the following manner : how is the interest of a television viewer in a broadcast aroused, how does he start to think of his impressions? Consequently, how can a given subject serve the mental and general development of a student?

In this respect, psychology offers three theses. The beginning of the mental process is in the situation of the problem. A problem to be solved, the support of previous experiences and, finally, the search for a solution constitute indispensable parts of reflection. Can television create situations stimulating reflection ? I believe that we are in possession of a sufficient number of examples proving this possibility. We also know from our experience that television can create motivations, inciting students to tackle a task.

Then, how is the guidance of students ensured in television education? How can the student learn if his solution was correct, obtain a confirmation of his correction and, finally, how can the television professor react to the student's work?

All these questions are justified. We know very well that a unilateral relation between the receiver and transmitter is characteristic of television broadcasts and that the contact which exists between teacher and pupils in class cannot be achieved. We believe, however, that a degree of regularity in television education can be achieved. The conditions are as follows : direct, if possible personal contacts between the television teacher and his pupil; preparation, guidance and control from the teacher; the use of text-books containing a special syllabus for adults; simultaneous use of explanation and demonstration which is sometimes replaced by the so-called problem method. In this sense our work is facilitated by the use of, *e.g.* work sheets or competitions in the form of games for small children. The use of these methods makes the student more active, changing him from a passive receiver to an active and interested participant. This method can give students the joy of common work, the sense of live impressions and eliminate the complexes of weaker students.

One of the sources of live impressions has its origin, then, in common work and adaptation of the problem method to television; other sources must be sought among aesthetic factors.

School television broadcasts are not school broadcasts if we take the concept of school in the traditional sense. The present methods differ from old school methods. Results depend on special factors, television effects and the possibilities of this communication medium. In a dramatic scene the clash is between the Good and the Evil, Progress and Conservatism. The television viewer identifies himself with the plot, sees himself embodied, so to speak, in the figure of the hero, partakes in the protagonist's joys and sorrows. It can be said that his whole personality participates in the events taking place on the screen. The greatest problem of a dramatization with educational aims is to find the desirable degree of identification of the television viewer with the hero. In fact, as the educational process cannot be separated from sentimental and emotional factors, their preponderance can be to the detriment of the effects expected. If the student considers reality to be a fairy tale, if he feels himself to be in a cinema, the quality of the educational process will be necessarily deteriorated. Hence, it is necessary to set limits to the application of dramatic means with the aim of creating effects affecting sentiments so that pupils will not be driven to a point when they would no longer be capable of drawing logical conclusions from the teaching. This seems easy, but we know well that it is quite difficult to achieve.

Dramatization, which is very valuable in the teaching of languages, literature and history, has an analogy in the field of experimental sciences in experiments and demonstrations. Many people cannot imagine that chemical and physical experiments also have their dramaturgy. The specification of the aim of the experiment corresponds to the introduction of a drama. To illustrate the degree of influence of the dramatic effects of a chemical experiment we may quote the case when a student smelt odours. The impact of visual and auditory effects stimulated the olfactory organ.

We could devote a special study to various games, riddles and competitions which undoubtedly exercise a great influence on the process of gaining knowledge and developing reflection.

The cooperation of the best experts and artists, pictures of various regions of the country, as well as famous works of art, enrich education with moral factors. In combination, all these effects offer an aesthetic entertainment to television viewers and form a second source of live impressions. Simultaneously, these factors allow us to hope that our broadcasts do not only facilitate the acquisition of knowledge and abilities, but contribute to the general development of the student's personality as a whole.

The surveys on the effects of educational programmes, which have just begun in our countries, seem to justify our hopes. According to the results of surveys in schools teachers assess the favourable effects of educational television as follows : students have got an idea of objects and ideas they would be unable to get in other circumstances. In this way it is plausible and possible that the knowledge retained in the form of words acquires also a visual content, thus becoming true knowledge. Students' memory can best retain knowledge transmitted simultaneously by sounds and pictures. The explanation of certain facts by specific television techniques (tricks, enlarged pictures, insets, slowed-down projection) helps to engrave knowledge more deeply in the memory.

In television classes the joy of work and interest in the subject taught is growing. Students take upon themselves supplementary tasks (reading of books, visits to museums, etc.) voluntarily. Teachers are unanimous in saying that during television lessons the discipline of pupils is better and there is no need for teachers to interfere. The broadcasts stimulate discussions which are participated in also by weaker students who answer the questions asked with greater assurance.

Teachers appreciate the didactic stimulations provided by the various broadcasts. Concrete results are manifested in the education towards international patriotism and in the field of examples to be followed.

Appreciations by teachers concerning live impressions prove the correctness of our assumptions. The value of our remarks is not decreased by the fact that the desired effect is not always achieved due to difficulties and insufficiencies. All this does not prevent us from stating that television education is constantly developing and has already found its place in our modern educational institutions.

An exchange of experience can play an important role in speeding up this develop-

ment. We work under different conditions in various parts of the world. However, our problems are often of the same nature. We shall be very glad to learn from you and you honour us by your interest in our modest experiences. The Educational Television Group working in the framework of Intervision recently stated that it was necessary to seek the possibility of an exchange of opinions with other organizations. For this reason we are participating with pleasure in this World Conference. We thank its organizers for having made it possible for this meeting to take place.

Recent developments of educational radio and television in the member Organizations of the A. B. U.

Monday, March 20th, 1967

The General Assembly of the A.B.U. had entrusted Sir Charles Moses with the task of presenting to the Conference members a general survey of the evolution of Educational Radio and Television in the various organizations which are active members of the Asian Broadcasting Union.

His report summed up the results of a large inquiry undertaken by the A.B.U. on the occasion of the Conference; with the help of the Ford Foundation and the National Educational Television (U.S.A.). In addition to Sir Charles Moses, Messrs. V. K. Narayana Menon, Tadashi Yoshida, Frank Watts and Mrs A. Meesook described the particular features of educational radio and television in India, Japan, Australia and Thailand.

This report, on the one hand, detailed the organization, utilization and effectiveness of Educational Radio and Television in the member organizations of the A.B.U., and, on the other hand, the main types of programme broadcast by these organizations, which range from the training of teachers, to educational programmes for adults and the campaign against illiteracy.

You will find in Chapter 5, a list of descriptions of activities established by these organizations.

Sir Charles Moses
Secretary-General of the A.B.U.

Educational broadcasting in Asia and the Pacific

The region of the Asian Broadcasting Union is spread over an area far greater than that of any of the other regional Unions.

Consider the great distances which separate many of our full members from each other. Our western limit is longitude 30 ° East, running through the Eastern Mediterranean. In the east the boundary is longitude 170 ° West passing through the Mid-Pacific. This represents a spread of 140° or nearly halfway round the world — about 11, 000 miles or 17, 500 km. From north to south our full members lie between the north of Hokkaido in Japan and Stewart Island to the south of New Zealand — well over 6, 000 miles, or more than 9, 500 kilometres.

Amongst our members there are many differences — racial, cultural, political and economic. But, under the inspiring leadership of our President, Mr. Yoshinori Maeda, we are united in a determination to collaborate in improving the standards of broadcasting of all our members; in encouraging the use of our media for national development through education, and in working together for better understanding between nations with the ultimate goal of world peace.

The A.B.U. seeks closer ties with the other regional Unions so that the benefits of progress may be shared by all and knowledge may be available to all.

This report is not confined to A.B.U. members. It gives a broad account of educational broadcasting in some 31 countries — 42 broadcasting organizations — of Asia and the Pacific, although there are some countries from which we could not obtain information.

In the A.B.U. region the commitment to education as a national policy is just as strong in countries which are at the developing stage as in those which are highly industrialized. On the one hand, there is Japan which is amongst the world's leaders in the utilization of radio and television for educational purposes; on the other hand, our smallest member, the Tonga Broadcasting Commission with its improbably small staff of 13, is stretching its resources to the limit to use radio in the service of education.

Our developing nations recognize that in an educated citizen lies the key to economic, social and political progress. Greater productivity and higher levels of personal and national income cannot be achieved by an ill-educated population. It is in the broad field of education that broadcasting has a vital role as an instrument of national policy.

Most Asian countries suffer from a lack of schools and a lack of qualified teachers. Broadcasting must try to compensate for this and broadcasters must also help to teach farmers and workers and housewives new knowledge and new skills.

In countries where the literacy rate is low, it is through broadcasting that the people can become an informed and responsible part of the nation. While the other mass media are important, broadcasting represents the only way that leaders can reach large populations directly, frequently and economically. Radio and television — particularly television — can multiply the effectiveness of teachers and of farm and health specialists.

In gathering the material for this A.B.U. report I have had the very valuable assistance of Mr. Robert Hudson of National Educational Television of New York. Mr. Hudson's great knowledge and wide experience were generously placed at the service of the A.B.U. by Mr. John F. White, President of N.E.T. which is one of our associate members. I would like also to place on record the indebtedness of the A.B.U. to the Australian Broadcasting Commission whose staff and facilities for listening, viewing and editing in Sydney have been a great help to us.

HIGHLIGHTS OF EDUCATIONAL RADIO AND TELEVISION DEVELOPMENT IN THE ASIAN PACIFIC AREA SINCE 1964

In our approach to this report, we have not attempted to describe the work that is being done in the A.B.U. region, country by country, but rather to deal with the main types of educational programmes. In each of these categories we have examined the whole region, emphasizing new developments since the Second Conference in 1964 and also those activities which were not reported at that time.

a. *School Broadcasting.*

It is natural, of course, that we should start with a look at schools broadcasting. After all, the first two Conferences devoted their full attention to this aspect of educational broadcasting and the printed Proceedings of those meetings provide impressive documentation of school broadcasting throughout the world. In effect, our report today, as far as it refers to schools, is intended to be a 1967 supplement to the reports of the two earlier conferences.

Those of you who were in Tokyo in 1964 must have left Japan with a lasting impression of the range, the penetration and the effectiveness of schools broadcasts in that country, both in radio and television. Nothing has remained static in the intervening years. N.H.K. has increased its massive effort in this area; in addition N.E.T. and other commercial television stations provide a valuable service to schools.

In Japan there is an excellent school education system open to every child, and therefore radio and television are used mainly to supplement the work of the teacher in the classroom. But N.H.K. provides also many special services, such as the N.H.K. Correspondence High School and the programmes for students who have speech difficulties; both of these services have been extended or developed since the last Conference.

N.H.K. began school broadcasting in April, 1935, so last April this service completed its 31st year.

To underscore some of the more recent developments in school broadcasting in Japan, I would like to invite Mr. Tadashi Yoshida, Director of the Education Department of N.H.K. to speak.

Tadashi Yoshida

Since 1964, N.H.K.'s educational broadcasts have been reinforced in many aspects, but first I would like to talk about the development of science programmes.

Speaking of science programmes, particularly those directed to primary schools, emphasis has been placed on the promotion of pupils' spontaneous observation, thinking and judging powers of scientific phenomena. For this purpose, each programme has been so arranged as to make pupils gradually reach the final conclusion or grasp the theme of the programme, during the period of 20 minutes, which is the duration of such programmes. At the same time, all the science programmes are organized and presented in keeping with the mental development of pupils from the first grade to the sixth grade so that the entire structure may have a progressive and systematic relationship. Thus, we hope we will be able to lead and instruct and to let pupils reach conclusions for themselves.

The effectiveness of this method of programme production has been ascertained through a survey conducted by our Radio-Television Culture Research Institute. The survey confirmed that such programme composition, which aims at developing the pupils' spontaneous thinking power by continuously posing appropriate questions during the broadcast, is most effective for pupils from educational points of view. We have further improved this method ever since 1964. We do not yet think the work has been completed, but this methodology has been partly introduced into other curricula such as social studies, English language and so forth. Besides, in this way, we can encourage the continuous use of our school broadcasts.

Here I would like to call your attention to the fact that the simple videotape recorder for home use is expected to provide vast possibilities of furthering the use of school television, particularly in senior high schools. One of our statistics witnesses that nearly 40 % of senior high schools which are equipped with videotape recorders regularly use our programmes. This figure is quite significant considering the unfavourable situations in these schools — so far only 7 or 8 % of senior high schools with television receivers are regular viewers of our programmes.

Incidentally, as another example of application of some of the latest technical developments, I would like to refer to the transmission in colour of all the programmes aimed at kindergartens. The reaction so far has been quite favourable, and we plan to extend the colour service to another sphere, especially to programmes such as those on science, fine arts and so on, according as the receiving side is ready to use them.

Sir Charles Moses

Moving westwards from Japan, we can report that the Korean Broadcasting System has increased the time devoted to its radio service to schools by 50 % over 1964. The K.B.S. programmes are directed to primary schools only. During the current year, nearly half of all primary schools are making use of them. Recently K.B.S. conducted a television demonstration series for schools in the Seoul area; this was a forerunner of a schools television service which is now in the advanced planning stage.

A pilot project in schools television is at present under way in Taiwan with programmes directed to 36 schools. In Taiwan schools broadcasting is provided by the combined efforts of the National Educational Radio and Television Stations, the Broadcasting Corporation of China and the Kuang-chi Program Service. The objective is to supplement classroom teaching — radio being used mainly at the high school level whilst television will serve the elementary schools. A detailed report on these activities has already been submitted to this Conference.

The educational service provided by Radio National Lao was established to assist the elementary schools and to provide basic education in the 8,600 villages which have no schools. This service has been seriously hampered by shortages of transmission facilities and receivers. New studios and transmitters are now nearing completion with assistance under the Colombo Plan, but the lack of receivers in the villages remains a very serious problem. Plans are under way for the gradual extension of these educational programmes.

In South Vietnam the national radio system has recently started direct teaching programmes up to the twelve-year level. These broadcasts are being used by about 50 % of the primary schools. Teachers generally have welcomed the broadcast lessons which include history, music, and biographical stories. Radio Vietnam, in conjunction with the Education Department, is planning an extension of this radio service and consideration is currently being given to the introduction of instructional television.

Thailand has a comparatively long history of educational radio, provided by the Ministry of Education. Since the last Conference, the Ministry has been experimenting with educational television.

As the Ministry of Education has no television transmitter, its television programmes are transmitted by Thai T.V. and Army T.V. The Army T.V. and Thai T.V. also transmit lessons in English which are intended both for schools and the general public.

For primary schools in the Bangkok area, the Bangkok Municipality, in collaboration with Thai T.V., has recently established a television service which is widely used within the coverage of the transmitter, and is reported to be achieving successful results in increasing the efficiency of the learning process. One of its English teaching programmes received a special award in the 1966 Japan Prize.

Malaysia is in the early stages of developing schools broadcasting. A radio service provided by Radio Malaysia was inaugurated in May 1966 and, more recently, a series of experimental television programmes for schools was started. For the time being, radio serves the primary schools, while the television programmes, which are provided by the Malaysian Educational Television Project, teach science to the young people in secondary schools.

The new State of Singapore is one of the most recent starters in the educational television field having launched its service for secondary schools only a few weeks ago, on 30th January last. In getting this service on the air the Education Department has had invaluable assistance from C.E.T.O.

India is entering its sixth year of television broadcasting to schools. The first four year period ended in 1965 and has been the subject of a comprehensive report.

In radio, schools broadcasting has been in existence for many years — 30,000 schools listen regularly to the programmes.

All India Radio has continued to concentrate its efforts on secondary school children, in both radio, which has a nation-wide coverage, and television, which, as yet, serves the New Delhi area only. The results appear to have been markedly successful with teachers as well as with children.

In Pakistan, prior to 1966, schools broadcasting in radio had for many years been restricted to Karachi and the surrounding district. Now it has been extended to the programme producing centres of Lahore, Quetta, Hyderabad, Dacca, Chittagong and Rajshahi. Expansion of the services, which are intended for secondary schools, will not be practicable until the present single radio network is duplicated. The use of television for educational purposes has so far barely reached the blue print stage. Recently Radio Pakistan introduced a daily radio series of English lessons for matriculation students.

Great strides in educational broadcasts are being made in Iran, particularly through the work of the Education Corps which will be mentioned later. Iran is a country where history was made four years ago when, for the first time, boys and girls sat in the same classroom. This step was regarded as revolutionary as the discarding of the veil by women in 1935. Iran attracts special attention because of its rapid progress in the use of radio for educational purposes, and because this major effort is being financed primarily from its own resources. Educational television commenced in Teheran less than a month ago towards the end of February. The service is being provided by the Iranian Educational Television System.

In Lebanon educational broadcasts were commenced nearly five years ago. These were evening lessons directed to children — and to those adults who were interested — in the home. Last year a forward step was taken with the introduction of an experimental weekly broadcast of one hour to the schools. If this is as successful as it promises to be, there will be a substantial extension of this service.

Syria has not yet commenced broadcasting to school children but next month a start will be made in the television service. The first step will be a series of lessons in the French language for school children in their homes, a series which will be assisted by the provision of free booklets. Further developments depend on the success of this initial step. The use of radio for schools broadcasting in Syria must wait for the second radio network next year.

In Saudi Arabia most of the radio and television programmes for children are of an educational character. As in Syria, all of these programmes are transmitted outside school hours; but schools broadcasts are at present under consideration. A novel radio programme for school children called « Students'Magazine » is well worth mentioning. It is a weekly 15 minute session of information and advice which covers such subjects as pupil/teacher relationships, the approach to examinations, how to memorize and so on. Frequently students and teachers are interviewed about school problems in this programme.

Thousands of miles away in Eastern Asia — in Hong Kong — there is another example of what are essentially school programmes broadcast out of school hours. The Hong Kong Commercial Broadcasting Company devotes 6 hours a week to lessons in Chinese, in English and in mathematics. These lessons are for children preparing for the highly competitive examination for entrance to secondary schools. Free booklets are made available by the broadcasting organization and the students may, if they wish, do written tests at the end of each series. The audience comprises about 20,000 students.

Television Indonesia (T.V.R.I.) also provides programmes out of school hours for pre-school children and for children of school age. These programmes occupy about 15 per cent of the output of T.V.R.I. and are prepared in consultation with the educational authorities. Consideration is now being given to the use of television for specific teaching purposes. Radio Republik Indonesia (R.R.I.) has extensive services of the same type for young people from the kindergarten age upwards. The emphasis is on civics and helping children to learn to live in a community. In one interesting weekly radio programme, children from orphanages and similar institutions take part in the programmes and thus they are helped to overcome a sense of inferiority and isolation.

To return to the Middle East. In Jordan the Hashemite Broadcasting Service is actively using radio for direct teaching in the schools. Daily sessions are provided for both primary and secondary pupils in a wide range of subjects. An unusual feature is that the Broadcasting Department provides every school with its own radio receiver, its loud speaker system and its tape recorder.

Many of you will know that in Israel schools television, operated by the Instructional Television Trust, started just a year ago. It is a pilot project directed to 32 carefully selected schools of various types, and is providing programmes in the subjects where the educational need is greatest — mathematics, English and biology. The aim of the programmes is to combine instruction and enrichment : instead of regular daily telecasts, its « key lessons » are selected to make the most effective use of television when combined with the total course of study in the classroom.

The Turkish Radio and Television Corporation — T.R.T. — provides radio programmes for both primary and secondary schools. T.R.T. has reported an interesting recent experiment in radiovision which was designed to test the use of radio in helping to overcome the shortage of trained teachers and thus make adequate instruction available to a greater number of students. The best available teachers provide the broadcasts while the classroom teachers collaborate by presenting visual materials to illustrate the programmes. This project has been carefully assessed and the results have demonstrated the value of this method in making the best use of existing educational resources.

Towards the eastern end of the A.B.U.'s region, instructional television in Australia has moved very quickly since the last Conference. Here is the A.B.C.'s Director of Education, Mr. Frank Watts, who will tell you about this progress.

Frank Watte

As Sir Charles Moses has said, educational television in Australia made a significant change of direction at about the time of the Second Conference in Tokyo in 1964. Up until then most of our programmes were directed to primary schools and were of the enrichment type, but the pressures of modern curriculum developments in secondary schools induced the various Education Departments to seek the co-operation of the Australian Broadcasting Commission in the programming of more clearly defined instructional sessions closely tied to the syllabus in each of the six Australian States. Most of the new programmes, which commenced transmission in 1964, were in mathematics and science though each year there has been a widening which has brought in further sessions in such subjects as geography, literature and modern languages. To cope with this extension, the A.B.C. has doubled its staff of professional officiers in its Education Department and as each year has passed has increased transmission times until now, in 1967, in each State there is continuous programming for the whole of the school day from 9 a. m. to 3.30 p. m. with a break only at lunch time. So successful has this work been that in some centres there is an extension of this type of programme down into the primary schools — especially in science. And as the scope of programming has widened so has the use of the sessions — with sets being installed in ever increasing numbers of schools — about 3,500 at present.

It is of interest to mention that, in spite of the growth of instructional television which is now available to over 90 % of the Australian population, the A.B.C. has not found any dropping off in the use of the radio programmes for schools which it has been providing for over 30 years. This may be due to the change in emphasis which we have effected in order to concentrate on those subjects most suitable for radio — and here again the secondary school is well to the fore.

An organization which it is hoped will, before long, be represented among the full members of the A.B.U., is the Broadcasting Service of the Trust Territory of Papua/New Guinea. Here the A.B.C. provides a schools radio service as well as kindergarten programmes. Originally these were mostly programmes produced in Australia but more than half are now produced locally in conformity with the Government's policy of training local people to run their own public utilities.

Sir Charles Moses

The New Zealand Broadcasting Corporation has not yet moved into television for schools but is continuing, and expanding, its radio service, mainly for primary schools. Recent developments have included programmes designed to stimulate children in creative writing through readings of good prose and poetry.

Out in the Pacific beyond New Zealand are countries made up of groups of relatively small islands where broadcasting serves to maintain all kinds of contact among communities of islands, in some cases spread over more than 1,000 kilometres. American Samoa has a very interesting television service for schools.

The new Caledonian television service was established in 1965 by our hosts, the O.R.T.F.

Apart from Eastern Samoa and New Caledonia, all other south Pacific countries depend on radio. In Western Samoa the Samoa Broadcasting Service and the Education Department started schools broadcasting in the middle of last month. This new service is for primary schools and the subjects include the teaching of English as a second language, social studies, nature study and basic science. The programmes are intended to serve a dual purpose; whilst principally their aim is direct teaching, they are also a guide to teachers in improving their own methods. Obviously there has not yet been time to assess results but the programmes have been welcomed by many teachers with whom there is regular contact through the Education Department.

The small but devoted staff of the Tonga Broadcasting Commission, the smallest of the A.B.U.'s full members, manages to provide five hours a week of radio broadcasts to schools.

In Fiji two-thirds of the primary schools use the broadcasts provided by the Fiji Broadcasting Commission, These are mainly concentrated on the teaching of English and the F.B.C. reports considerable success in this direction.

To the north and nearer Asia, the Philippine Broadcasting Service and the Philippine Bureau of Public Schools jointly serve primary schools and kindergartens by means of radio. The broadcasts to primary schools include both instructional and enrichment programmes, and there are also informational broadcasts for school officials and teachers in the field. Although transmitted by 17 stations, less than 40 % of all primary schools can receive the programmes satisfactorily. There is a pressing need for more transmitters and also for receivers in the schools.

The Bureau of Public Schools in the Philippines is an active member of the Metropolitan Educational Television Association. This is a non-profit co-ordinating agency which, in collaboration with the Ateneo Centre for E.T.V., is providing instructional television programmes for some 30,000 secondary school students in the Manila area.

Ceylon, another island member of the A.B.U., enjoys school programmes in radio at both primary and secondary levels. The Ceylon Broadcasting Corporation provides these broadcasts which are achieving success with the teachers as well as with the children. As in many other Asian countries, the effectiveness of these services is affected by a serious shortage of radio receivers in the schools. The C.B.C. also transmits kindergarten programmes and one of these has won a Japan Prize.

Finally, another island in another sea — Cyprus. The A.B.U. does not claim all the oceans but our western boundary passes through the eastern end of the Mediterranean, and Cyprus is therefore well within our region. Cyprus started an instructional television service less than a year ago, the programmes being aimed at the 12 year level. This service, provided jointly by the Ministry of Education and the Cyprus Broadcasting Corporation, has 100 % reception in schools. An extension of these television programmes is already being planned for the second year of operation, and a start will be made, during the coming year, on a radio service to schools.

b. *Classroom Utilization of Schools Broadcasts.*

It is generally recognised that the effectiveness of broadcasts to schools is enhanced when appropriate materials are supplied to the children; but this practice is followed in only a few countries in the A.B.U. region mainly because of shortage of funds. On the other hand, most countries with school broadcasting services make an effort to supply teachers with summaries of the lessons and with guidelines for preparation for the broadcasts and follow-up work.

Contact with classroom teachers in Asia is usually maintained either by the broadcasting organization or the Education Department or both, through reports from teachers, visits to schools, teacher participation in planning the programmes or preparing the broadcast booklets, and through seminars. No matter how excellent the programmes, their effective use in schools will be achieved only with understanding and co-operation from the classroom teacher.

In its 55 hours a week of schools broadcasting N.H.K. is making a special effort, particularly though study and working groups, to build close collaboration between the programme production staff and the teachers in the schools. The Federation of Radio and Television Educational Associations in Japan, which arranges meetings to study the utilization of broadcasts now has a membership of 46,000 educational bodies, and about 300,000 people participating in these studies.

Radio Pakistan is expecting a much wider use of its schools broadcasts as a result of a recent Education Department instruction that all secondary schools *must* be equipped with suitable receiving and loud-speaker equipment and *must* participate in the broadcasts. The Department has also instructed the school inspecting staff to report fully on the utilization of the broadcast lessons by the schools.

Before I leave the subject of classroom utilization I would like to ask our friend Mrs Khunying Ambhorn Meesook, the Director of the Ministry of Education's service in Thailand, to speak briefly about it.

Mrs Khunying Ambhorn Meesook

It is very gratifying for me as an educationalist to see that since the Tokyo Conference much more attention has been given to classroom utilization. I believe that for this aspect of our work the key word is « integration ». If the schools broadcasts cannot be reasonably well integrated with regular classroom activities, educationally speaking they are of little use.

As has been mentioned, in our region a great deal has been done to make broadcasts more effective in the classroom, but it would be far from the truth to say that there are close contact and complete understanding between teachers and broadcasters. In most cases the teachers want to make use of schools broadcasts, but they are still confused as to what their roles are.

They do not go fishing during the broadcasts but I suspect a number of them do go to sleep — with their eyes open of course! It is therefore imperative that we must establish contact and really come to an understanding with the teachers.

In my country we offer enrichment and direct instruction programmes. We now feel that emphasis should be put on the latter. It is easier for the teachers to integrate them with other class activities, as they are more relaxed because the contents of the broadcasts are more directly from the syllabus. It is also more convenient for broadcasters to introduce teaching methods which are compatible with methods used in class. This compatibility is essential when broadcasts are used to serve the dual purpose of being an educational aid as well as a form of teacher training for example.

I am not proposing, however, that enrichment programmes are not useful. Personally I prefer them, for in my humble opinion there is nothing on earth — not even the most effective schools broadcasting service — that can take the place of teachers. And there are some teachers who want to be replaced by direct instruction programmes!

The ideal thing is perhaps the combination of instructional and enrichment programmes as mentioned a few minutes ago by Sir Charles Moses as regards developments in Israel.

Classroom utilization can of course be more effective in most countries of our region if more recorded programmes are provided for classroom use. Needless to say, such a service will help solve many problems, for instance poor reception and unsuitable time-tabling. It is heartbreaking for us in Thailand to be unable to give a sufficient service when it is required by a very large number of schools.

In order to further involve teachers in this joint venture of ours, may I propose that when the E.B.U. authorities organize conferences of this kind in the future, they consider inviting a number of well-chosen classroom teachers, as well as other « users » of educational broadcasts, so that they can express their views, discuss their problems, and state their needs. There will then be a dialogue at the international level between the broadcasters and the « users » of the broadcasting programmes.

Sir Charles Moses

c. *Reception Equipment in Schools.*

Now we come to the question of the extent to which schools broadcasts can be heard or seen in schools. In some countries there is a shortage of transmitters or of transmitter time for education. Shortage of receivers in schools is a much more common problem. Detailed information is difficult to obtain but I have put together some available figures relating to the numbers of radio and television receivers in schools which are given in an appendix to this report.

The figures for equipped schools are up-to-date but in some cases the other information, such as total population, is some years old. The percentages of equipped schools are based on the total number of schools even though, in some countries, the broadcasts may be intended either for primary schools only or for secondary schools.

In radio, the benefits of broadcasting reach a large proportion of schools in some countries. This is particularly so in Japan, Australia, New Zealand and the islands of the Pacific. But in many Asian countries, schools broadcasts are heard by only a small minority of the children of school age. Some of the countries not included in this list are among those in which school programmes reach very few of the schools. The plain fact is that a high proportion of schools in many Asian countries cannot use broadcasts because they have no receivers.

Most of the broadcasting organizations concerned, and their governments, are aware of this problem and are trying to do something practical about it. But it is mainly a matter of finance. The transistor radio may seem cheap by the standards of highly industrialized countries, but the number required in many Asian countries represents a major expenditure in national budgets which are already strained by other developmental projects. And there must be continuing expenditure for maintenance especially in countries where there is a shortage of trained technicians.

In spite of the shortages of receivers we cannot ignore the fact that there has been a remarkable increase in recent years in the total number of radio receivers in our region; but the number available for education in most of our countries is still far below the desirable minimum. One receiver in a village, with proper arrangements for maintenance, can be an educational opportunity for both children and adults, but in too many cases that single receiver does not exist. The A.B.U. would eagerly support any international projects aimed at solving this problem.

In the case of television the shortage of equipment is far greater than in radio. Among countries for which we have been able to obtain figures, wide-spread television usage is evident only in the schools of Japan and Australia, in the secondary schools in Singapore and the primary schools of Cyprus. In other countries where a television service exists, usage is still in the pilot stage. Such projects are extremely valuable, particularly in providing the experience on which wider activities can be based, and in demonstrating the contribution that television could make to the work of the schools. But it is obvious that for many years to come, shortage of receivers and of transmission facilities will be a major problem holding up the full utilization of television for educational purposes in Asia.

d. *Combining Broadcasting and Correspondence Study at the School Level.*

Apart from services to schools, broadcasting, in a number of countries, is being combined with correspondence study for isolated students and also for those who had to begin their working lives before they had gone far in school.

One of the foremost examples is Japan where N.K.H.'s Correspondence High School which was described at the Tokyo Conference in 1964, now has 16, 000 students. This month the first group to complete the four year course will be graduating. But this is only part of the service which N.H.K. supplies for correspondence students for whom there are broadcasts in radio and television totalling more than 17 hours a week.

A valuable new project in Taiwan is the Experimental Commercial Vocational Supplementary School of the Air. This service was started in 1966 by the Ministry of Education in collaboration with the educational radio and television services and the Taipei Provincial Commercial High School. Its four year course, which leads to a diploma, covers the same subjects as the senior vocational schools. Teaching is carried out through radio supplemented by television, and by lectures in school on Sundays and holidays, and by correspondence.

We can also report on a new service in Australia, which is designed to meet a special problem — a gap which appears to exist between school and university studies. Television lessons in mathematics and science are combined with a university tutorial course and special booklets to enable secondary school students to enter universities better prepared for tertiary education. The telecasts are given by the A.B.C. in short series at 7 a. m. and are repeated at appropriate periods during the year. They attract teachers as well as large numbers of students.

The use of radio in Australia to help children in remote areas is well known but the New Zealand Broadcasting Corporation is now providing daily broadcasts for isolated children. An interesting feature is that this correspondence course is being used by the children of Fiji who cannot attend schools, the N.Z. course being supplemented by broadcasts provided by the Fiji Broadcasting Commission.

e. *Use of Broadcasting at the Tertiary Level.*

Japan is the only country in the A.B.U. region at present providing broadcasts which are part of a complete university degree course. These programmes are planned by N.H.K. in collaboration with the organizations providing college correspondence courses and with the Ministry of Education. The programmes are closely co-ordinated with the correspondence course. The text-books for use with the radio and television programmes are issued by N.H.K., after consultation with other authorities, and are common to both the correspondence and radio courses. The subjects change from year to year; for example, in radio this year they are English, political science and literature and the television subjects are biology, mathematics, law and history. The total time given to these broadcasts in both media is 5 hours 30 minutes a week.

India is now taking a positive step in the same direction as Japan. In September last year, in conjunction with the Correspondence Course Directorate of Delhi University, A.I.R. commenced a series of radio broadcasts for first year students of the B.A. pass degree course. By the end of January this year, 6,000 students had been registered. If this experiment succeeds, additional A.I.R. stations will initiate similar programmes at other centres, and the project in Delhi will be extended to second year students in 1967-68 and to third year students in 1968-69.

The only other Asian countries providing programmes for university students are Lebanon and Pakistan.

In Lebanon the radio broadcasts were started experimentally in 1962, when they were limited to two 15 minute sessions a month. The broadcasts mainly dealt with subjects being studied at the five universities but also gave advice to students on how to study effectively. As a result of their success in the first two years the broadcasts are now given weekly, and during 1967 the duration of each broadcast will be doubled.

Radio Pakistan reports a successful weekly half hour radio programme. In addition to short extension lectures on subjects in the university curriculum, the broadcasts include discussions between selected students or between students and their teachers. As soon as the second network comes into operation, this programme will become a *daily* half hour.

f. *Evaluation of Effectiveness in the Learning Process.*

All broadcasting services in Asia and the Pacific are aware of the need for careful evaluation of results. In many countries evaluation is based on reports from teachers, observation visits to schools and other subjective methods. Some organizations would be interested in more systematic research but have not yet been able to attempt anything of this kind because of shortage of manpower and funds. Clearly, there is a need for more work to be done in this field.

We can report a number of evaluation projects. I have already mentioned success in the experiment in radio-vision in Turkey. In the Philippines during 1967 a test will be carried out on the effectiveness of direct teaching by radio of Grade I English. In Taiwan the National Chengchi University has carried out a study of the use of television in education for the Ministry of Education, while the Korean Broadcasting System has recently conducted two surveys among its school audiences.

Many of you will know that N.H.K. maintains regular studies through the N.H.K. Radio and Television Culture Research Institute. It also examines the results achieved in selected schools which are spread throughout Japan, and changed annually.

All the evaluation that has been undertaken has shown that the broadcasting media, when effectively used, can make a major contribution to the education of young people, both in enriching classroom work where a good school system is already available and, in those countries where there is a shortage of teachers and schools, by using direct instruction methods.

N.H.K.'s broad conclusion which would be echoed by others, is that broadcasting helps students to grasp phenomena as a whole, and improves concentration; that, particularly in certain subjects, classes using the broadcast programmes show substantially better results than those not using them, and that radio is particularly useful for stimulating interest among students below average ability.

Some countries have planned for careful evaluation of their schools broadcasts from the inception of the service. An example is the pilot project in Israel, where the original staff included 2 research psychologists. There are other countries where much the same approach has been adopted by the broadcasting authority. One is India and it would be appropriate at this stage to ask Dr. Menon, Director-General of A.I.R., to speak of their experience.

V. K. Narayana Menon

The Delhi television project covers over 250, *i.e.* a little over 2/3 the total number of schools in Delhi. About 100,000 students in middle classes, and 25,000 in higher secondary classes receive instruction via television Thirty two lessons are telecast each week. Double shift schools are served by repeat broadcasts. During 1964-65, 1,100 teachers and principals were involved in a total of 34 group-planning and evaluation meetings.

Some of the findings of the Neurath report — they sound obvious, but they represent careful study and measurement :

1. Television is proving itself a useful aid to teaching. Those who have television in their schools feel that their students would lose something valuable if it were taken away, and those who don't have it want it.

2. Students are learning more or better with television than without television. They see more and better experiments, and they see them in more detail than their own classroom teachers can provide in most schools in Delhi with present laboratory space and equipment; some of the experiments shown on television even the best schools could not provide.

In addition they see a host of other things that serve to widen the horizons of children who would otherwise never have an opportunity to see these things or even learn of their existence.

With regard to improvement in examination grades there is a slight over-all superiority of the results for students in television over those for students in non-television schools but far from sufficient to claim this as proof positive of better results achieved with television than without.

3. The whole teaching process, also the teaching performance of every single teacher is slowly undergoing a change for the better.

Teachers are becoming more aware not only of the necessity, but also the possibility of mobilizing their own, in most cases, rather limited laboratory resources.

Science teachers, under the impact of television — and this refers to the whole combination of television lessons plus group discussions plus annual meetings — are becoming more vociferous in their clamour for more laboratory space and equipment and many principals similarly affected are beginning, because of television, to take a greater interest in science teaching than before, and trying to get it for them.

4. Among students there is an increased interest in science as a subject. Also, beyond that there is a social impact: television makes a contribution towards equalizing educational opportunities... all students, regardless of how well or not well equipped their schools may be, whether their school may be located in a poor or a well-to-do neighbourhood, whether their parents be of low or high social status, all of them receive the same television lessons.

5. Among teachers there is a new sense of responsibility for the work they are doing.

This derives from the fact that they are getting more and more involved in the straightening out and in part also in the changing of the curriculum (34 seminars and meetings were held between May 1964 and January 1965 involving a total of 1,100 teachers and principals)... and television forces the classroom teacher, whether he is aware of this or not, to compare himself with the television teacher and to thereby, whether he approves of him or not, give thought to his own role as a teacher.

There are also resentments among the teachers about television and the role that it plays in their teaching and the rather secondary role that it gives them during the television period.

6. Among the principals (only few of whom have science as their teaching field) there is a new interest in the teaching of science in their schools. They are getting more drawn into the pedagogical problems of the teaching process.

7. *Impact on the school system as a whole.*

A change of attitudes and of actions taken is percolating through the whole school system, in both directions, upwards from the teachers and downwards from the directorate. On the whole this is a slow process... after three and a half years of experimenting, the rather stationary, staid institutionalized process of teaching and the administration of teaching is starting to move.

Television requires for sheer technical reasons that syllabi be uniform for all participating schools. Principals, getting more involved again in syllabus questions, are beginning to look after adherence to the syllabus in general.

At the directorate level, the combination of enforced uniformity of syllabi and the increased adherence to them, together with the increased participation of teachers in syllabus discussions, has opened up new opportunities in syllabus planning but also new avenues of fairly direct contact between directorate and teachers. In pedagogical matters also, the new developments that come with television appear rather conducive to the directorate of education also assuming a more active leadership in these matters.

Sir Charles Moses

g. *Broadcasting as an aid to In-Service Teacher Training.*

The very existence of radio and television programmes for schools provides a form of teacher training by example since those selected for the broadcasts should be the best available teachers, with outstanding ability in imparting knowledge.

A number of our broadcasting organizations go beyond the exposure of teachers to the example of good teaching. They are using radio and, in some cases, television to train teachers and guide them in their work.

The A.B.C. in Australia is using out-of-school hours to enable teachers to keep up-to-date in such subjects as mathematics, physics and chemistry. It is also combining radio with television for teacher training, as it has only one television network and therefore television air time is limited. This year in one Australian State, a combined radio and television course will end with an examination. This will be accepted as half the normal teacher training course required by the State Education Department for academically qualified adults who may be interested in taking up the profession of teaching.

Summer Schools for teachers organized by the University of Sydney are also telecast in their entirety for the benefit of those unable to attend, by the Sydney commercial Channel 9 station. Scientists of world standing are brought to Australia for these Schools.

The Ceylon Broadcasting Corporation devotes two hours each week to radio talks on teaching methods for trainee teachers.

Language teaching is the subject of a service provided by the Philippine Broadcasting Service and the Bureau of Public Schools : these broadcasts are used by over 16,000 teachers.

In Thailand, the Ministry of Education has several broadcasts each week for teachers including information relating to their profession as well as talks on training. In addition there are half hour daily programmes called " Teachers' Hour " aimed at helping teachers to improve their teaching methods and classroom activities.

N.H.K. has daily programmes for teachers totalling nearly 2 hours a week.

Many organizations which are not yet using broadcasts for the direct instruction of teachers organize seminars for teachers or training courses in the use of schools broadcasts.

A particularly interesting project which combines broadcasting with teacher training is that concerning the Education Corps in Iran. Many of you will no doubt be familiar with the basic details of the scheme under which suitable young army trainees, who have had secondary education, are directed into teaching duties. They are given four months training in the techniques of teaching and are then sent out for fourteen months to teach village children during the day and in the evenings to teach the grown-ups to read and write. Every one of the 13,000 young men in the Education Corps has his transistor radio and each morning, at 5,30, he tunes in to a half hour session specially directed to the men of the Corps. He receives by radio his instructions regarding his school work and his evening class for that day. He is given practical advice. He listens to answers to the problems that he and his colleagues have come up against. He is made to feel a part of a great scheme and he knows that he is making an important contribution to the national development of his country.

h. *Teaching a Second Language and Combating Illiteracy.*

Some broadcasting organizations are having to give special attention to teaching the national language, principally because it is not spoken by all the people; for example, All India Radio has to cope with the problem of broadcasting in 29 different indigenous languages.

But many broadcasters in our region offer help to students and adults wishing to master a foreign language. English receives most attention, but French, German and Chinese are also taught through broadcasting.

It would take too long to refer to all these services. But language services are sometimes examples of international co-operation. Tapes from the B.B.C., the O.R.T.F., the Australian A.B.C. and some of the German stations are being put to good use in the A.B.U. region. Sometimes shortwave radio is also used for this purpose, as in the A.B.C.'s English teaching programmes for Indonesia and Thailand, and N.H.K.'s transmissions which teach Japanese.

A language teaching service of a different kind, which is worth mentioning, is found in Jordan. From the Jerusalem transmitter of the Hashemite Broadcasting Service simple lessons in conversational Arabic are being broadcast for visitors. The compere speaks in Arabic and English and, after the pronunciation of the Arabic words has been established, the words are spelt phonetically using the Roman letters.

Only Iran of the Asian countries seems to be using the broadcast media in an extensive campaign to combat illiteracy. Illiterates comprise 70 % of the population of Iran. Five years ago they were 75 %. About 25 % of the illiterate population — mostly young people — listen to the regular 1/2 hour radio literacy broadcasts. Almost every village — there are nearly 50,000 of them — has its own radio receiver.

The Iranian education authorities consider that the radio sessions are serving a useful purpose in the illiteracy campaign but they believe the work of the Education Corps is probably more effective. Within 10 years it is expected that most of the adult population will be literate, the only exceptions being those old people who find the change too difficult.

i. *Involving the Home in School Broadcasting.*

Before leaving school broadcasting, I would like to mention that, in Japan, efforts are being made to keep parents informed about school education and to encourage them to take a part in the educational process.

N.H.K. television devotes 3 hours each week to " Mother's Study Room ", a series of programmes which stress home education and give information to parents about how the primary schools function. There are other N.H.K. programmes for the parents of children who have hearing defects or speech difficulties.

The Japanese commercial stations, too, take part in this work. The Mainichi television station in Osaka encourages mothers to tune into school programmes, and, when the children are home in the late afternoon, the programmes are repeated for mothers and children to watch together. 30 % of the schools in the Osaka area are co-operating in this project.

The National Education Television station in Tokyo is another which seeks to involve the home in school broadcasting. It holds each year a National Audio-Visual Education Conference for mothers and teachers.

j. *Farm Broadcasting.*

The first two E.B.U. Conferences did not include the use of broadcasting to educate the farmer and the fisherman in using modern techniques to produce more and better crops, to improve the standard of animal husbandry or to obtain more fish. We of the A.B.U. are delighted that the scope of this Conference has been widened to include educational programmes directed to farmers.

In many countries of Asia the problem of feeding the people is very urgent and cannot wait for the success of efforts to combat illiteracy. The first priority must be given to stimulating the means of production. Farmers must be taught how to achieve higher standards of productivity, but they are, by nature, conservative. It is not easy to convince them that methods which have been used through countless generations are now out of date, and that new and different techniques must be used.

Agricultural Department officers cannot make personal contact with every farmer to explain the new methods. The written word makes no impact on an illiterate peasant farmer. Therefore broadcasting must play its part in this vital field of national development. A.B.U. members generally are aware of their responsibilities in this field and, in conjunction with Departments of Agriculture, of Fisheries and of Forestry, they are playing an increasingly effective role.

Three years ago, very few broadcasting organizations in Asia had agricultural officers on their staff. Now, most of them have a trained agriculturalist in charge of Farm Broadcasting. In this connection it is appropriate to mention the important part the A.B.C. has played. Over the past six years, annual three months courses in Farm Broadcasting have been held in Sydney at which about 100 trainees from Asian countries have received practical grounding in this work; many of these are now in charge of the Farm Broadcasting programmes in their own countries.

The work of N.H.K. in this field is equal to anything that is being done in any country in the world. I would like to ask Mr. Yoshida to tell you something about it.

Tadashi Yoshida

N.H.K. now presents farm programmes for an average of 2 hours and 25 minutes a day on radio and 1 hour and 22 minutes on television, accounting for 4 per cent of the total telecasting.

Regarding ratings of these programmes, the « Bright Farming Village » — this is our morning T.V. programme — which enjoys the highest rating, has consistently registered 12 %, which means that it is viewed by some 8.5 million farmers and others. According to surveys conducted by N.H.K. more than 68.1 per cent of farmers have answered that they are utilizing this programme as being useful in their farm management.

At the back of such answers is the utilization of N.H.K. networks linking 700 farm correspondents, who have been selected from among leaders stationed in the farming, fishing and remote villages, and 200 farm programme staff members assigned to 54 local stations across the country.

As new work assigned to the farm programme service since the Tokyo Conference, N.H.K. promoted in 1965 an organization of farmers' groups for the utilization of broadcasts. These groups were formed for the purpose of encouraging young people to remain on the farms, instead of going up to cities as industrial workers, to carry on group studies using farm programmes.

At present, 3,159 such groups have been organized throughout the country. These groups are composed of a total of 58,500 young farmers. By 1969, 16,000 groups mobilizing 300,000 members are expected to be formed.

For studies undertaken by these groups, some 220,000 copies of radio text-books are sold. From this year, television text-books are also to be issued. For bringing farmers together over television, a one-hour programme titled " For Better Farm Life " is presented in the Educational T.V. Service. In this programme, group activities in various areas of the country are introduced, problems involving agriculture are discussed among young farmers, and opinions of earnest and good young farmers on farm management as well as the thoughts and lives of pioneers are presented in an effort towards making farm life more satisfying for these young people.

Sir Charles Moses

India is in a different position. Privately owned receivers are rare among farmers and farm broadcasts are heard on community receivers, if at all. A.I.R. has been active in farm broadcasting for a number of years, but it has recently adopted a new approach by setting up Farm and Home Broadcasting Units and I would like to ask Dr. Menon to describe these to you.

V. K. Narayana Menon

To achieve a break-through in agricultural production the Government of India have planned to intensify agricultural production with a combination of all technological improvements available, as well as by concentrating manpower and resources in a few select areas which have optimum conditions for increasing agricultural production. A major strategy for achieving the target of additional agricultural output has been the introduction of high yielding rice and wheat seeds as well as hybrids of maize and millet over an area of about 32.5 million acres. The bulk of this area lies within the 130 districts already working on the intensive programme.

To bring this change about, an intensive programme of farmer education has to be organized. About 10 million farm families are involved. Realizing the important role that radio can play to motivate, to guide, inform and educate such large numbers of farmers, All India Radio has set up special broadcasting units in these areas.

Ever since the beginning of broadcasting in India, agricultural programmes have always occupied a place in the overall programmes for rural areas in All India Radio : over 200,000 villages, about 40 % of all the villages, have facilities for community listening, but with the great emphasis laid on the intensive area approach in recent years, A.I.R.'s approach has also undergone a change. As a first step, ten Farm and Home Broadcasting Units have been set up in different States to lend active educational support to intensive agricultural programmes. Each of these units covers three or four districts, based on the homogeneity of crops, practices and of languages spoken. The radio programmes are designed to be field-based and problem-oriented. The initial response to this experiment has been encouraging and we are now setting up 36 more such units. The idea is to use radio in the 130 districts ear-marked for intensive agricultural development in the four years to follow.

To begin with, each of these Farm and Home Units broadcasts 30 to 40 minutes segments of hard core agricultural/informational programmes. The programmes are strictly based on the calendar of operations in the field. The accent is on field-based programmes. The voice of the successful farmer has to be heard more and more to give a sense of belonging and of participation and involvement to the farming community.

Some of the stations have also started a ten-minute morning service which consists of weather bulletins, market rates, hints to extension workers and other items of topical farming interest. This is being extended to all stations as facilities become available.

An interesting programme called " Calling all Extension Workers " has been started in a few stations as part of the morning service to provide day-to-day guidance from the directives of agricultural operation to the worker in the field. This direct line of communication, through radio, has been effective especially in times of crises like floods, drought, bad weather, pest attacks, epidemics etc. This line of communiccation could also be used for teaching — for keeping the extension workers abreast of the latest findings.

Thus the ultimate objective is to have an exclusive channel for broadcasting to farming communities in rural areas, geared to cater for the varied needs of the various segments of the rural population.

Hitherto, the agricultural programmes were part of the responsibility of the General Producer of the Rural Programmes. With the establishment of the Farm and Home Units, an exclusive staff has been provided for agricultural broadcasts. At the head is the Farm Radio Officer chosen for his experience in agricultural extension work and his intimate knowledge of agricultural practices in the area. He is assisted by a Field Reporter and a Field Assistant, whose job it is to tour extensively in the field to record interviews and other programmes of farmer participation. A script writer with wide experience of local language helps in writing radio features, documentaries, etc., and also helps in comparing the programmes.

Sir Charles Moses

In countries where farmers listen individually, there is a special need to make the broadcasts attractive and to select transmission times convenient to the audience. In Jordan the compere of the daily 15 minute farm programme is one of the most popular broadcasters available. Special care is taken to ensure that the experts are trained in presenting their advice and information as effectively as possible.

Radio Lebanon has a weekly programme which attracts most farmers because of its unusual character : the answers to questions from farmers are given in popular poetic form.

Personality comperes and attractive music are important factors in the success of Radio Pakistan's daily half-hour farm broadcasts. A popular theme song introduces these programmes, the words of which are, in English translation :

Grow more food, my friend, grow more food,
Plough hard and eat well, my friend,
Therein lies your salvation.

Further to the east, Radio Laos also exhorts farmers to grow more food. For example mohlams — a traditional type of Lao song — instruct farmers on how to grow better rice and vegetables.

In Korea K.B.S. has its Radio Farmers' College and its Radio Fisheries College comprising regular programmes. Korea provides one of the few cases where booklets are distributed for use with these broadcasts.

There are also daily radio services for farmers in Saudi Arabia and Syria, providing expert advice, interviews with successful farmers, advice on farm economics, and so on. The Saudi Arabian series, " The Good Land ", includes a specially chosen village elder who discusses problems indigenous to the country — such as trespassing of animals and crop diseases.

In Iran the majority of farmers listen regularly to the Farmers' Programme which was introduced when the Land Reform Law was put into effect four years ago. No part of this programme is produced from office desks, in fact over 90 % is recorded in the farms and villages with farmers and with experts.

Radio Thailand broadcasts 4 times a week to farmers. Turkey and Ceylon include segments for farmers in their programmes to village communities which I will mention later. The Tonga Broadcasting Commission attaches much importance to its seasonal advice to farmers.

In Australia the A.B.C. has an extensive radio service for farmers, a large part of which comprises local programmes which deal with the farming interests of a particular district. It also includes farm material of a more general nature in its television programmes.

In New Zealand the N.Z.B.C. also serves the man on the land, and in Taiwan the Broadcasting Corporation of China has had considerable success in guiding farmers on how to get the maximum output from their relatively small farms.

Another country in which intensive agriculture is important is Malaysia and regular radio broadcasts, given at a peak listening hour in the evening, are helping to increase food production. The content of the programmes is similar to that in many other countries — talks by experts and extension workers, interviews with successful farmers backed up with other relevant information.

In a few weeks Radio Afghanistan will increase its radio Farm Broadcasting time from 15 minutes to 30 minutes daily. This programme seeks to teach farmers modern agricultural methods and guide them in such matters as farm management. It is broadcast in both Afghan languages — Pashto and Dari.

k. *Community Development.*

Even greater in number than the school broadcasting services of the A.B.U. region are the broadly educational services directed to the adult population. Their basic purpose is usually to help towards a better and fuller life and to widen horizons. Radio and T.V. can make contact where, because of high levels of illiteracy, the printed word has little meaning.

It will not be possible to mention all the wide range of programmes now being transmitted in the area of adult education and community development. The most common are programmes concerned with citizenship and the responsibilities of the individual to the community, with health and with women in the home.

An interesting example is Pakistan's " Basic Democracies Programme " which occupies 30-45 minutes of radio time, at peak periods, every evening and is directed to groups of listeners in villages. This is one of the most popular of all Radio Pakistan's programmes and no effort is spared to keep it so. The best comperes and artists are engaged and the appropriate colloquial language is used. The pace of the programme is lively and it has an outdoor flavour. It is intended for everyone. Each programme has its home and health hints; it emphasizes the obligations of citizenship; encourages civic pride; teaches the people self-help and how to improve their environment; how best to use their leisure, and, in between the instruction and advice, there are local news items and folk music performed by leading artists and by selected village musicians. The important point about these programmes is that they have helped many villages to achieve substantial progress.

In India the A.I.R. approach is a little more serious. Their radio programmes, which are mainly intended for group listening, include talks on handicrafts and family-planning. There are also special programmes for industrial workers. Assessment of these A.I.R. community programmes has shown that they have helped industrial workers and farmers to understand their problems better and have contributed to some raising of living standards.

The A.I.R. television service which, as yet, is limited to the New Delhi area, devotes an hour every evening to social education. This programme covers much the same subjects as its radio counterpart with the addition of first aid, utilization of waste materials, environmental cleanliness and consumers' co-operatives.

In Ceylon local rural development officers organize listening groups in the villages for the daily magazine programmes provided by the Ceylon Broadcasting Corporation. The programmes resemble those of Pakistan in approach and in subjects covered. Contact with village listening groups is maintained by the Government officers who make on-the-spot recordings for inclusion in the programmes. Selected group leaders are often brought to the radio studios to participate.

Of the countries of Western Asia, Jordan has an interesting community programme " The Family Hour ", which usually opens with an item for the pre-school child, then follows instruction to the woman of the house as a mother. The next section is directed to the woman as a wife, followed by a section which is directed jointly to the man and his wife on the subject of making a happy home. Then come answers to listeners' questions and a talk by the family doctor. A story, which instructs as it entertains, concludes the programme. The various sections are linked by Jordanian folk music and introduced by a popular compere.

Syria has a novel one-hour programme on television in which, before a big studio audience, Ministers and the heads of Government departments have to answer questions about the policies and activities of their departments. The questions are often highly critical and probing. This is certainly an example of democratic processes at work!

Jordan has a similar radio programme called " Minister's Brief-case ", but the Ministers have no audience to face.

In Syria, Jordan and Saudi Arabia health is a very important subject and regular weekly programmes are broadcast. In Syria the programme is televised and about 50 % of the existing 70,000 receivers are normally tuned into it. In each case the personality of the doctor in the programme is considered to be of prime importance. Apart from health and hygiene, the recognition and prevention of seasonal ailments is his main theme.

Lebanon has an unusual weekly radio programme in this general field — " How to Bring up Your Child ". It deals with every stage in the life of the child, from baby to teenager. Psychologists, dentists, school-masters, baby health experts, and so on, all take a turn in giving advice and in answering questions with the idea of teaching parents how to bring up healthy, intelligent young people who will make good citizens.

In Singapore listeners are offered 2 or 3 adult education courses each year by Radio Singapura. These courses comprise about 15 lectures and discussions on a selected subject. The programmes have included such widely diversified subjects as economics, concepts of democracy, elements of law, history, social problems, etc. Text-books and transcripts of the broadcasts are provided and are in considerable demand.

The rural and village people of Korea are served by K.B.S. with a wide range of community development programmes, many of which are tailored to the needs and interests of local discussion groups who, in turn, feed material back to the programme. One weekly programme worth mentioning is « Time for Discussion Groups ». Each month a series of four broadcasts deals with a subject concerned with a problem which would have application to many of the listeners. After the broadcasts listeners are invited to relate the information they receive to their own lives.

In Guam, the Pacific Broadcasting Corporation started, 3 weeks ago, a daily educational television programme for adults, the contents of which are prepared by the College of Guam.

Radio Hong Kong, however, has a long established and extensive service in radio which now totals about 13 hours a week. This includes language teaching in English and Cantonese, Chinese literature and a variety of other subjects, as well as special services for fishermen.

Laos is a country where the large majority of the people live in villages but, because of the absence of railways and of roads and telephones to link the principal centres of population, radio is the only real contact with the outside world. The Government has adopted a five year plan for the development of the existing educational programmes for schools and for adults; soon new transmitters and studios will make it possible to reach all parts of the country. But the effectiveness of the programmes will be limited because of the absence of receivers in most of the villages. This is a pressing need.

The establishment of community listening centres has been started in Turkey and, for these centres, T.R.T. is providing its experimental " Radio School ". The Radio School includes, as well as the normal community services, programmes with a direct educational content. These deal, at an elementary level, with the social sciences, mathematics and so on, and are intended for people who have had no formal education. Visual materials such as maps and drawings are distributed for use with these experimental programmes.

A small Asian country in which community development broadcasts and listening centres are only now becoming a reality is Nepal. In this mountainous land, radio is the only means of easy contact with remote villages. Receivers, supplied and maintained by Radio Nepal, are being set up in 300 village centres, each under the supervision of the chief of the Village Panchayat. Radio Nepal hopes that, within a reasonable number of years, each of the remaining 3 700 villages, in which the large majority of the people live, will have at least one receiver for listening to the programmes.

In Thailand the adult audience for educational programmes is comprised of individuals in their homes rather than in organized groups. The broadcasting service of the Ministry of Education provides an evening educational service totalling 21 hours a week whilst Radio Thailand supplies a further 8 hours a week of community development programmes.

The radio service in Indonesia makes available educational programmes that give special attention to women, encouraging them to take an appropriate place in community life as well as providing guidance in health, family welfare and marriage problems. The Indonesian television service provides a daily programme dealing with community development.

Two series of weekly adult education programmes, provided jointly by the Philippines Broadcasting Service and the Bureau of Public Schools, are aimed at organized listening groups. More than 7,500 listening groups receive written materials, including a summary of each programme and suggestions for preparatory and post-broadcast activities. Contact between the groups and the programme organizers is maintained through reports on each broadcast from group leaders, and through regular visits to the groups to guide them in using the programmes. Evaluation indicates that the groups are finding the programmes valuable but the need for better transmission facilities and language difficulties limit the success of this scheme.

The Cyprus Broadcasting Corporation makes available for its adult listeners, educational radio programmes teaching English, French and Greek. It also broadcasts lectures on science and other subjects, in the course of which a studio audience asks questions.

Finally there is Japan, a country which, as in so many other fields of broadcasting, is among the leaders in providing programmes of quality directed to adult audiences who seek to broaden their educational experience. In the last few years N.H.K. has given special attention to the needs of the urban population and already has organized in 20 cities a project to improve the cultural standards of the members of municipal communities. Included is the training of opinion leaders, organizing discussion groups in urban neighbourhoods, and, in general, making broadcasting a servant of the people. Special programmes for women's classes are broadcast four times each week. More than 30,000 groups have been formed since the classes were first organized eight years ago. They meet in public halls, temples, schools or in homes of participants and consider problems ranging from child development and problems of youth to home appliances and the status of women.

1. *Training of Educational Broadcasters.*

Apart from the need for equipment such as receivers, the most pressing need in the A.B.U. region is the training of more planning and presentation staff in the broad field of educational broadcasting. At the three annual General Assemblies so far held by the A.B.U. members have emphasized that arranging for more training facilities is one of the most important activities the Union can undertake. This need has also been stressed at conferences organized in Asia by U. N. agencies, such as the U.N.E.S.C.O. meeting on the use of broadcasting in education held in Bangkok in May 1966.

To meet this need on a long term basis, the A.B.U. is seeking the establishment of a Broadcasting Training Institute which would provide regular training courses for programme staff, news staff, engineers and other specialists. An important aspect of this project would be the training of staff so that they would be equipped to train others in their own organizations. Next month a survey team selected by U.N.E.S.C.O. will visit a number of Asian countries to assess training needs and will then make specific recommendations about this project.

In the meantime, the A.B.U. has sought the help of various international bodies and its own members in the arranging of training course, or of seminars, for the study by experienced staff of the use of broadcasting in education.

As a result of discussions between the A.B.U. Secretariat and F.A.O., a very successful seminar for senior programme officers associated with farm broadcasting was held in Tokyo last October, with N.H.K. as the host organization.

In another international co-operative project the A.B.U. has been associated with C.E.T.O. in a course on educational television in Singapore. This course ended a few days ago and was attended by 20 students from a number of East Asian countries.

Several of our members are making their own training facilities available to their fellow members. Leaders in this field are N.H.K. and the A.B.C. of Australia.

Last year N.H.K., with the support of the Japanese Government, made available to trainees from A.B.U. members a course in television engineering and an educational television course. All air transportation and living expenses in Japan were provided. Also in 1966 the A.B.C. held a 3 months farm broadcasting course in Sydney at which 16 trainees from Asian countries participated. In May of this year the A.B.C. will be undertaking a 3 months educational broadcasting course, including radio and television. Transportation and living costs of trainees for these A.B.C. courses are normally met from Colombo Plan funds.

These are not the only A.B.U. members offering training facilities. All India Radio is also making noteworthy efforts and so are the A.B.U. members in Malaysia, Singapore and New Zealand. An Asian country, not yet represented in the A.B.U., which is helping other countries by providing training facilities, particularly in educational radio, is Radio Iran. Kol Israel is another doing fine work in this field.

In Taiwan, the Kuangchi Program Service (K.P.S.) operates a modern, well-equipped television studio which is frequently used as a training centre for educational broadcasters. The most recent group to train there were twelve young producers and crew members from the newly established television network in Viet Nam.

Finally, what broad picture is there to be drawn about all the services I have briefly mentioned? Unquestionably there is a determination among many broadcasters and educators in our region that our media must be used to an increasing extent to meet the need for education which is the key to economic and social progress.

In schools broadcasting there are, very broadly, two types of services : firstly, those which are intended to make more effective a well developed school system and, secondly, those which are directed to helping to overcome shortages of schools, of trained teachers and of teaching equipment. In the A.B.U. region, services in the second category are in the majority. Therefore it is here that broadcasting can make its greatest contribution in ameliorating the circumstances which exist in most developing countries.

A serious effort is being made, with varying degrees of success, to use the broadcasting media to give new skills to the existing adult population and to improve living standards. As an adequate supply of food is of first importance in many parts of Asia, special attention is being given to farm broadcasting. But the use of broadcasting in the general field of community development is also being explored in the majority of Asian and Pacific countries, at various levels of sophistication.

In the whole range of educational broadcasting in our region, the most important problems appear to be shortage of trained staff, shortage of receivers and, in some cases, shortage of transmitters. The need to overcome conservatism is a challenge to the broadcaster and the educator in opening the way to a better life. This challenge is being taken up in most of our countries although successful results must not be expected too quickly.

In concluding, may I express, on behalf of all the members of the A.B.U., our warm sense of gratitude to the E.B.U. and to the O.R.T.F. for having made it possible for us to participate in this very important Conference.

On a personal basis I would like to thank M. Dupont, and all the staff of the O.R.T.F. concerned, for the magnificent hospitality which has delighted us all, and for the great efficiency which has marked all the arrangements made for delegates and observers alike.

RADIO AND TELEVISION RECEIVERS IN SCHOOLS

COUNTRY	POPULATION	NUMBER OF SCHOOLS	RADIO			TELEVISION		
			Total Radio Receivers	Radio Equipped Schools	% Schools Equipped	Total TV Receivers	TV Equipped Schools	% Schools Equipped
Australia	11,500,000	10,065	5,083,800	9,507	94.4	2,450,000	3,753	37.3
Ceylon	10,625,000	9,233	425,000	925	10	—	—	—
Fiji	456,390	661	34,800	415	62.8	—	—	—
India	477,000,000	448,500	5,405,000	30,000	6.7	5,000	289	0.06
Japan	98,282,000	57,000	20,576,000	57,000	100	18,167,000	57,000	100
Jordan	1,936,000	1,800	65,000	335	18.6	33,000	—	—
S. Korea	27,936,000	7,380	1,961,400	2,589	35	60,000	25	0.3
Laos	2,200,000	2,400	5,000	213	10	—	—	—
Lebanon	1,750,000	2,736	275,000	1,368	50	120,000	—	—
Malaysia	9,137,000	7,319	365,000	1,257	17	77,300	38	0.5
New Zealand	2,415,000	2,484	800,000	2,097	84.4	421,000	—	—
Philippines	27.088,000	35,600	1,225,000	9,500	26	70,000	57	0.16
Singapore	1,844,000	640	389,000	—	—	81,800	119	18.5
Thailand	26,258,000	27,900	2,800,000	6,000	21.5	187,400	120	0.4
S. Vietnam	14,200,000	8,232	1,000,000	3,869	47	1,500	—	—
Western Samoa	130,000	333	15,000	300	90	—	—	—

Recent developments of educational radio and television in the member Organizations of the U. N. T. R. A.

Tuesday, March, 21st 1967

It was the task of Messrs. HASSAN AKROUT
Director of Television, Radiodiffusion-Télévision tunisienne

ERIC ADJORLOLO
Deputy Director-General of the Ghana Broadcasting Corporation

to assess recent developments of Educational Radio and Television in African countries and in Madagascar.

Afterwards HAILU TELAHUN
Director, Ministry of Education and Fine Arts — Ethiopia

furnished some details on experimental programmes in Addis Ababa.

You will find in Chapter 5, a list of descriptions of activities of the organizations on which the peakers based their reports.

Hassan Akrout
Director of Television
Radiodiffusion — Télévision tunisienne

The development of educational radio and television in Africa

General introduction.

The report which my colleagues from Ghana and myself have the honour of presenting to you here is not to be considered as being comprehensive in any way whatsoever.

It is a very approximate approach to the situation of educational radio and television in Africa.

We shall endeavour to determine what part Radio and Television can play in a developing country and to define their mission. We shall also mention a few examples of what has been done in some of our countries, difficulties we meet when setting up educational and school radio and television services.

In African countries, today considerable changes are taking place. Some people call them « revolutions », others consider that they represent an « evolution ». However, the main point is that — at all levels of society modifications and transformations are happening all the time and at great speed. Values are changing, traditions are being questioned, social mobility is upsetting social structures, individuals are sometimes at a loss, bewildered, not knowing which set of value to rely on, nor what traditions to believe in. Society really seems to have reached a breaking point.

Faced with this situation radio and television have an extremely important part to play. This is why I would like to insist more particularly on the idea that a Radio and Television organization — just like the other mass media — carries a heavy responsibility. It can have no other mission than to help in the advancement of mankind and to support continuous education.

It seems obvious that, faced with the situation we have just described, what radio, and the same is true for television, must do, is to help man become a harmonious part of society and to help bridge the gap between rural and urban populations.

Another characteristic feature of our countries is that very often certain populations live in complete isolation. Some villages and rural settlements situated in the desert, on mountain tops, or in the depths of forests, are completely cut off from the rest of the country. Their only means of communicating with the rest of the world is through radio and television. What the latter should do therefore is to enable these populations to become integrated and to feel integrated in the society to which they belong.

Breaking down this seclusion also means that progress will now be possible as no society or group, or even individual, should remain untouched by development.

Our only hope is to trust all the active forces in our populations, to canalize them and to direct them towards development and wellbeing. Information is the final answer in the fight against those scourges of underdevelopment and barriers to progress, ignorance and illiteracy.

Here, naturally, educational radio and television as such have a particularly important part to play. As we shall see later, many countries have already made some efforts in this direction. Others are so active in the educational field generally that they have had to increase the number of schools, teachers, research centres, and are now also turning to the possibility of using audio-visual methods to help with achieving general literacy and to enable every citizen to enjoy a minimum of learning.

But already, and this even before having taken advantage of radio and television with a didactic purpose, our various organizations have done a great deal of work in acquainting populations with modern methods and techniques. We have had to show popularization programmes in all our countries on health, agriculture, economics, etc. We had to make it possible for women, men and children to understand the new dimensions of life.

We should like to stress another important fact in Africa today, namely that culture has been the privilege of a minority of people who are well off and have the possibility of going to plays, films, exhibitions and any other cultural event. This is why the mission of radio and of television too, is so important : it can help to make culture more democratic. Culture must no longer be limited to a privileged minority, nor to intellectuals, it must be within everybody's reach; it must penetrate into the countryside, into factories, people's halls, youth halls; wherever there is a citizen, it must go; it will no longer be a culture of books, but will find its true meaning in concrete reality transmitted by pictures and sounds.

Finally, radio and television in our countries represent a determining factor in bringing about a better knowledge of the world. They will become a powerful instrument of universal culture and will work towards binding closer ties between peoples. This is by no means the least of television's educational benefits. Consequently it really does seem that radio and television can play a very great part in African countries in educating citizens and in improving their standard of living.

Please allow me now to let my colleague from Ghana speak to you about the activities of educational radio and television organizations in English-speaking countries.

Eric Adjorlolo
Deputy Director-General
Ghana Broadcasting Corporation

Educational radio and television in the English-Speaking countries of Africa

Educational radio and television in Africa, whether north or south of the Sahara, has made considerable progress since 1964, the date of the Tokyo Conference.

African educators and broadcasting specialists realize that, for a continent with so many languages and such a great diversity of customs, and which is seeking knowledge and progress, radio and television could not have been better used than in the cause of educating the inhabitants of the continent.

I. EDUCATIONAL BROADCASTING

In all the areas, the educational broadcasts are either :

— under the direct responsibility of the various Ministries of Education; for example, Kenya, Nigeria, Sierra Leone, Uganda and Zambia;

— or the broadcasting organizations themselves : Ghana;

— or a trial venture between the Ministry of Education and the broadcasting organizations : Ethiopia.

II. SOUND BROADCASTS

Ghana.

The Broadcasting Corporation broadcasts the following programmes : " Let' speak English " — " Music for you " — " Say and sing " — " Talking about teaching " — " English language and current affairs ".

In 1966, a new programme « School science » was introduced. Between 1964 and 1965, about 500 schools took the programmes in Ghana, but as of January this year, the number has increased to 2,400 schools which listen regularly to the school broadcast programmes.

This is very encouraging and it is hoped that, with the increase in listening facilities to schools, the Ghana Broadcasting Corporation will be able to serve all schools and educational institutions in the country.

In the teaching of French, Ghana has the " Bonjour Koyo " series. About 1,024 schools listen regularly to this series.

Kenya.

The Voice of Kenya has been in action with its educational sound broadcasting for three years. Its programmes were intended for pupils in primary and secondary schools. This year, the Voice of Kenya sends afternoon broadcasts to serving teachers. Special programmes have been planned such as languages, speech practice, organization of activities in schools, the elements of the child's study and development and the principles involved in the teaching of reading.

The hope has been expressed in Kenya, that the listening teachers could come to realize that the radio can help them but it is vital that they must work first with their radio tutors, both before and after the broadcasts.

Uganda.

Broadcasting is programmed 5 days a week. There are supplementary and enriching programmes for primary, junior and secondary schools. The teacher training colleges receive English programmes.

The principal needs and goals of Uganda are :

1. direct instruction for primary school pupils especially in English, science and mathematics;
2. direct instruction for primary school leavers since there are not enough secondary school places;
3. direct instruction for secondary school drop-outs;
4. adult literacy;
5. unity as general citizenship through the introduction of a common language other than English;
6. teachers' training at all levels.

One of these school broadcast programmes won the Japan Prize.

Sierra Leone.

School broadcasting comprises two (20-minute) programmes daily from Monday through to Friday for 8 weeks each term.

There is also one evening broadcast every week.

The following series are broadcast : " Clear speech " for first year pupils in secondary schools. This aims at getting the pupils to speak English clearly and puts the emphasis on conversational pronunciation, stress and intonation.

" Let's speak English » is also for first year students in secondary schools. Its aim is to use standard English in situations recognized by the pupils and to give practice in the use of English.

There is the programme " Amusons-nous " for second year students in secondary schools. It aims at getting the students to listen to French, understand it, and also to express themselves in it.

Ethiopia.

Ethiopia started its first education syllabus by radio on March 25th, 1965 with 3 classes of 25 students each. There was a class of adults, a class of youngsters in age ranging from 8 to 15 years, and a mixed class of adults and youngsters.

This experiment was not successful and therefore was abandoned. Three months later, however, the same experiment was tried again. It was a success. Here, the students were divided into 2 groups. The first group were students who had spoken " Arik " from early childhood. In the second group, were students who could understand " Arik ", but were not Arik-speaking!

This radio course lasted one year.

Zambia.

Zambia has had a singular success in its radio experiments, and one of its programmes obtained the " Japan Prize ".

Nigeria.

In 1964, it became necessary to reassess the educational activities of the Nigeria Broadcasting Corporation and to attempt a clarification of the educational objective of each programme.

There are 3 kinds of programmes.

— *The first type* is not only syllabus-oriented, but also leads to a specific examination. An example of this is the English literature syllabus for those taking the West African school certificate examination.

Each year, some set books are recommended for schools to be studied for the West African school certificate examination.

This is either drama, fiction or poetry. A few of these are selected, including a Shakespeare play every term, one novel and a poem.

The B.B.C. recorded programmes on discs were very useful in the study of Shakespeare's plays. They provided voices from professional actors. In fiction and in poetry, local talent is employed from university lecturers or experienced teachers who have taught the subjects for some time. Such programme series supplement and enrich the work of the teachers.

— *The second type* of programme is one in which an attempt is made to teach directly a subject in which inadequately qualified teachers are known to exist. Examples of this are : the French language programme " Jacqueline et Olu " and the English language programme " The Johnsons at home " — these are series built around carefully described families with each member of the family participating with French or English words and expressions used in appropriate situations.

— *The third type* of programme is a cultural type intended to spotlight certain aspects of the culture of different groups in Nigeria. These programmes are shown in folk songs. This is heard over the radio with a number of teachers and schools all over the country participating; an example of this is a series called " Let's sing together " and a history series for primary schools called " Great people of Nigeria ".

Nigeria attaches great importance to supporting material. All these programmes are supported by guide notes for the teachers. In the notes, suggestions are made on what is considered useful for broadcast activities for the teachers and classes and follow-up activities. A number of teachers have found these notes useful. As many as 5,500 copies of the notes are distributed. The project started in 1964, with the help of a specialist provided by the Ford Foundation, and a Nigerian was attached to understudy him.

Education liaison is a new aspect of work which is assuming great importance in Nigeria. Close collaboration between the teachers and staff of the Ministry of Education is necessary.

Therefore, officers are appointed and designated Educational Liaison Officers. It is the duty of these officers to find out the syllabus in the schools and different regions of the Federal Republic of Nigeria.

This has always guided producers in selecting aspects of the syllabus that are of common interest to the various regions and for presenting to the Schools Broadcasting Advice Committee.

They also meet school-inspectors, tell them about the contents of the programmes and inform them of N.B.C. activities in schools. These meetings are generally organized during school vacations. More than 22 meetings have already been held during the last 12 months. As a result, many more teachers show interest in school broadcasts.

Over 4,000 schools are on the regular mailing-list of the N.B.C. There is a tremendous increase in the number of primary schools wanting to use the programmes.

Radio receivers for schools. A number of local education authorities are now paying for the installation of radio sets in the classrooms, but the greatest setback has been the inability of primary schools to afford the cost of receiving sets. In some cases, parent-teacher associations in schools make voluntary contributions to pay for cheap transistor radio sets.

Tape-reproduction service. As a result of poor reception in some areas of Nigeria, it has become necessary to introduce a tape-reproduction service. This service has a dual purpose. Thus, the schools that are not able to receive programmes clearly or cannot find time in class-time to listen to the programmes when they are transmitted on the air, send clean tapes to the N.B.C. and copies of the programmes are made available to them free of charge. Relations with the Ministry of Education have become closer. Three Ministries of Education (the North, East and West) have school broadcast sections with broadcasting officers. Most of the programmes produced by the North, all the programmes produced by the West, and two programmes produced by the East are transmitted over the national network of the N.B.C.

The N.B.C. intends to try to coordinate these programmes, stressing in the Nigerian situation the need to avoid duplications and waste. Therefore, Nigeria is suggesting areas of specialization. Most of the programmes from primary schools are produced in the North, while the East has done science in primary schools. The West produces programmes of history and geography and current affairs. For intermediate classes, in secondary schools, the N.B.C. has been having discussions with the Federal Government on the need for a national broadcasting service. In Eastern Nigeria, there has been improvement in the teachers' notes resulting from more illustrations. The Centre has a new printing department. Education officers, presenters, have been assigned to the Centre. They write some of the scripts and prepare and present programmes. They also give demonstrations aimed at improving the use of visual aids, and an effective utilization of educational broadcasts.

III. TELEVISION

Zambia.

In June 1965, the two mining companies of Zambia " Anglo-American " and " Selection Trust " donated television equipment to the Zambian Government. This was supplemented by the purchase of additional equipment bought by the Government of Zambia, and thus, Zambia, in February 1966, opened its own Educational Television Studio. Before this date, all educational television broadcasts were transmitted through the commercial television studios. Zambian educational television has increased rapidly and this has enabled the number of locally produced programmes aimed at satisfying the needs of its audience to be extended. Owing to its limited resources this department must have recourse to imported films.

The service is managed by professional staff who have been seconded from the teaching service. From the beginning of this year, the Zambian educational television service has been transmitting 15 different programme series, each week. Nine of these are local productions which showed an increase of 300 % over the first term of 1966 when the service first went on the air. There are both morning and afternoon transmissions. Zambia has a potential audience of 5,000 viewers for its educational television programmes.

Plans are now being studied to extend educational television by microwave links to schools in Lusaka within the next few months.

These programmes are divided into 3 categories :

1. Mainly direct teaching;
2. Semi-direct programmes. These are built around a number of films mainly from abroad and often take the form of a live studio introduction and follow-up by a foreign film;
3. There are also ready-made films for secondary schools in subjects such as science and English literature.

There are programmes intended to acquaint teachers with new teaching techniques in science, art and physical education in primary schools. The service is not limited to school children. There are evening programmes for the general public including teachers and senior pupils. They deal with subjects such as Zambian animal life and how to conserve it, current affairs and entertainments.

Despite the remarkable progress made by Zambia in the short period of its educational television service, there are a number of problems.

Zambia has to extend its service to the majority of its population. There are problems of lack of electricity supply, lack of experienced or trained television producers and directors, and difficulties in fitting educational television programmes into school time-tables.

Nigeria.

The ministries of Education in the North, East and West broadcast educational programmes on television. The National Television Service in Lagos has been experimenting with some science and language programmes produced by the Federal Ministry of Education.

Radio broadcasts to schools were begun in the West in 1958 by the Ministry of Education. This was followed two years later, by the introduction of television broadcasts. A section was created within the Ministry and staffed by experienced teachers. Members of this section organize, produce and present radio and television broadcasts to schools. The technical installations are provided by the local station.

The Ministry of Education has recently approved the building of a studio especially for the production of educational programmes. To this end, two technicians were sent abroad for special training, and the U.S.A. had already provided an engineer of considerable experience. The Ministry of Education is already in possession of " U.T.R. " and 80 videotapes. A modest equipment costing about £1, 500 has already been ordered and it is hoped that the studio will be ready for use in January 1967. For personnel, technicians, cameramen, etc. the Ministry intends to make use of the students of the technical college (electronics section). This would provide practical experience for students of electronics at the college.

A second achievement in the setting up of a maintenance section in the Ministry of Education has been started. The Ministry is aware of the difficulty experienced by the schools in rural areas in the maintenance of the equipment. Schools are therefore advised to bring their sets to the section for proper maintenance.

Ghana.

The television service in Ghana is 20 months old. It started with 30 regular general educational programmes. Questionnaires were sent to schools earlier in the year, inviting teachers' views. Extensive planning had also been done in conjunction with the Ministry of Education. Teams to choose various programmes for secondary schools, training colleges and technical schools have been formed. As skill-tests, programmes were made in the studio, recorded and then viewed and criticized the next day by panels of senior producers and educators.

These test-programmes were at the same time auditioned for possible future presenter exercises to make producers and technicians familiar with equipment and technical resources and experiments in television techniques.

By the time morning broadcasts to schools had begun in November 1965, all the 70 secondary schools in reception areas, 30 training colleges and one technical institution had been equipped with television sets supplied free of charge.

Though students in this category might look at an appropriate telecast these programmes were not essentially intended for them. Thus, students were not considered as a section of the regular captive audience at which the broadcasts were aimed. The school services started with 2 programmes each morning. Each lasted between 20 and 30 minutes. The subjects were : English literature, biology, sociology and geography intended for African training colleges, science, a programme also suitable for secondary schools, English language for training colleges and 2 engineering courses for technical institutions. Each programme consisted of a film with an introduction and conclusion designed to help teachers and students relate the information presented to the syllabus.

The introduction and conclusion for the films shown are given by practising Ghanean teachers. They include practical experiments, demonstrations of tools and machines, handling and use of schemas and other visual aids.

Since it was hoped to produce an increasing number of school programmes locally, and since all except one of the producers were fully engaged on the evening programmes, the problem of training new staff had to be solved. In March and April 1966, a 4-week intensive course was organized with the help of a training officer from C.E.T.O. In April 1966, 3 junior producers went to London for a 3-month course in educational television techniques at C.E.T.O. Three production assistants began a similar course in September last year. In January this year, the number of weekly programmes was increased from 10 to 15.

Although incidental use of foreign films is often desirable, an increasing proportion of programmes are home-produced and designed only to meet local requirements.

Evening Educational Programmes. In addition to single special programmes, there are 13 regular weekly locally produced half-hour educational programmes. These are programmes for illiterate adults, children, housewives, farmers, fishermen and Jack of-all-trades.

Ghana aims at a wide viewing public rather than specialized or captive audiences.

Children's Programmes. They are now broadcast between 6 p. m. and 6.30 p. m. on week-days.

The Ghana Broadcasting Corporation tries to give full coverage of interest from the youngest age groups to 14 or 15 year-olds.

Three programmes deserve special mention : " Children Variety ", " Young Scientists " and " Puppet Show ".

The " *Children Variety* " brings groups of children to the studio. They sing, dance, recite, play music and act plays.

What they do they have learnt in their own schools but they enjoy putting this into action in front of the camera.

" *Young Scientists* " is designed for pupils in upper primary and lower middle schools, but a great many adults, whether they have had a scientific education or not, watch it regularly and appreciate it.

Apart from nature study, there is little formal instruction in science in primary and middle schools in Ghana. One reason is the lack of equipment and teachers. Now, however, a number of science centres have been set up throughout the country to remedy this insufficiency.

" Young Scientists " programmed on television shows demonstrations and experiments made in studios with the aid of very simple home-made and easily constructed equipment. A variety of programmes are performed in the studio, illustrating numerous basic principles of science. Viewers are then encouraged to make their own experiments, illustrating the principles themselves.

Programmes for adults. There are 3 programmes a week for adult viewers on farming and fishing. They usually include several film sequences especially shot by the G.B.C. television film team. They deal with very practical problems and modern methods of solving them. This primary audience is not necessarily highly educated, but on the contrary people who might find difficulty in following technical discussions in English. These programmes are presented in 3 local languages. The use of local languages has made it possible to attract a much wider variety of people.

" *Home Makers* " is a programme for women. Each week, it brings a professional expert in domestic science or skilled housewives to the screen. They give practical instruction in cooking, dressmaking, hairdressing, etc... There is also usually an interview with a personality, a woman who has made a career for herself or made an outstanding contribution to education, business, science or the arts. Finally, to help the housewife with her budget, there is a market review. This reports the latest prices for small quantities of basic commodities in various areas of Ghana.

The programmes discussed have been selected to show the way audiences aimed at by the locally produced evening educational programmes are catered for. A number of regular broadcast series of foreign films have not been mentioned. They might, strictly speaking, be classed as " educational programmes ".

A few important conclusions can be drawn. The Ghana Broadcasting Corporation regards the raising of educational standards in the community itself as an essential and primary function of its television network. Programmes directed to schools are designed to be an extra tool in the hands of the teachers.

To broadcast a film made in a foreign country for a foreign audience the film must be part of a programme which presents it with emphasis on its local relevance. Presenters, whenever possible, should be practising teachers, working with students at the same level as those speaking from the studio.

For evening educational programmes addressed to a non-captive audience and in which entertainment must be used to give information, those which are simple, direct and practical with obvious relevance to everyday life, are probably the most effective and attractive. These, of course, can only be made locally. Dramas and musicals can have almost universal appeal, but in general, educational telecasts need to be much more carefully designed to suit the audience one hopes to reach.

The audience must feel, if it is to be both interested and effectively instructed, that the programme is really and truly addressed to it.

In conclusion. Mr. Chairman, I wish to say that television presents a great challenge to us in Africa.

rous basic principles of science. Viewers are then encouraged to make their own experiments, illustrating the principles themselves.

Programmes for adults. There are 3 programmes a week for adult viewers on farming and fishing. They usually include several film sequences especially shot by the G.B.C. television film team. They deal with very practical problems and modern methods of solving them. This primary audience is not necessarily highly educated, but on the contrary people who might find difficulty in following technical discussions in English. These programmes are presented in 3 local languages. The use of local languages has made it possible to attract a much wider variety of people.

" *Home Makers* " is a programme for women. Each week, it brings a professional expert in domestic science or skilled housewives to the screen. They give practical instruction in cooking, dressmaking, hairdressing, etc... There is also usually an interview with a personality, a woman who has made a career for herself or made an outstanding contribution to education, business, science or the arts. Finally, to help the housewife with her budget, there is a market review. This reports the latest prices for small quantities of basic commodities in various areas of Ghana.

The programmes discussed have been selected to show the way audiences aimed at by the locally produced evening educational programmes are catered for. A number of regular broadcast series of foreign films have not been mentioned. They might, strictly speaking, be classed as " educational programmes ".

A few important conclusions can be drawn. The Ghana Broadcasting Corporation regards the raising of educational standards in the community itself as an essential and primary function of its television network. Programmes directed to schools are designed to be an extra tool in the hands of the teachers.

To broadcast a film made in a foreign country for a foreign audience the film must be part of a programme which presents it with emphasis on its local relevance. Presenters, whenever possible, should be practising teachers, working with students at the same level as those speaking from the studio.

For evening educational programmes addressed to a non-captive audience and in which entertainment must be used to give information, those which are simple, direct and practical with obvious relevance to everyday life, are probably the most effective and attractive. These, of course, can only be made locally. Dramas and musicals can have almost universal appeal, but in general, educational telecasts need to be much more carefully designed to suit the audience one hopes to reach.

The audience must feel, if it is to be both interested and effectively instructed, that the programme is really and truly addressed to it.

In conclusion. Mr. Chairman, I wish to say that television presents a great challenge to us in Africa.

Both technically and artistically, it was, only a short time ago, an unknown medium.

We have met the challenge. There are still many problems to resolve. The solution of each problem brings with it new ones. But the experience of the first 20 months particularly in Ghana television makes us confident that all future challenges will gradually be met.

Hassan Akrout

Director of Television
Radiodiffusion-Télévision tunisienne

Educational radio and television in the French-speaking countries of Africa

Algeria.

For the past few months the Ministry of National Education and the various departments concerned, in conjunction with the Algerian Radio and Television Service have made a few experimental programmes in view of setting up in the near future a school radio and television service. I hope that before long, we shall hear that Algerian Television has joined the educational radio and television world family.

Congo Brazza.

In the Congo Brazza, an attempt will soon be made in the field of literacy-teaching. The State Department of Continuous Education for Adults is preparing a series for broadcasting. Animateurs will be trained to supervise groups of adults in the listening rooms to be opened all over the capital. Should this experiment prove successful it will be extended to the whole country.

Another current scheme concerns rural broadcasts. Produced by the Congo Agricultural and Zootechnical Departments in order to train land-workers, this series is transmitted by the R.T.C. for 45 minutes every week. The school television service operates for 7 hours 50 minutes every week, mostly for primary and secondary school teachers. It also helps pupils and students to revise knowledge acquired previously.

Ivory Coast.

In the Ivory Coast, television literacy courses have existed for five years. These lessons were intended up till now only for groups of workers — 700 of them took part — but now this literacy movement is reaching rural communities and the number of students has risen to 1,500. Television also broadcasts refresher courses for teachers. The equivalent radio programme is called *The School Teacher's Magazine* Teleclubs — at present numbering some 430 members — cover ten centres. Of these 430 members, 160 are women.

The subjects taught cover many fields, such as health, child care, home care, agricultural advice, common law, etc... Other programmes on development are also broadcast by the Television Service; a series called « Operation Rice », programes from the International Radio-Television University and the children's Thursday programmes. All these educational programmes have already been mentioned during sessions of the Commissions. A radio campaign has also been launched in favour of rural mass education.

Malagasy Republic.

The Radio Service of the Malagasy Republic is currently making considerable efforts to raise the level of citizens and to make them more aware of all the basic work undertaken in which they are strongly urged to join. Long-term campaigns on problems of development are organized in this way. Special programmes and slogans are transmitted in support of the campaign for reafforestation and for increasing rice production. Campaigns are also organized in favour of food education, the fight against illness and basic hygiene training.

The General Commissariat in charge of rural animation and civic service, under the authority of the President of the Republics in charge of programme reception. Amongst other things, this Commissariat — in close connection with Radio Madagascar — has set up ninety rural animation centres, forty five of which function regularly. This is the first step towards real radio-clubs. The purpose of all these programmes is « education and entertainment ».

In the field of school broadcasts, Madagascar is still at the project stage. It is interesting to note however that in December 1966, it was decided that a School Radio Service should be organized. Its aim will be to broadcast refresher courses for school teachers who — being completely isolated — cannot always keep in touch with the new methods adopted and with the new syllabi.

I should also like to draw your attention to Radio University. This channel is not an integral part of the national Radio Service. It is under the authority of two trustees; the State Secretariat for Information, and Tourism and the Ministry of Cultural Affairs. Its work consists of broadcasting lectures recorded directly at the university as well as documentary programmes for university and student circles. Full courses are also broadcast, such as the first level of a law degree. Radio University is on the air for thirty five hours a week, and functions only during the university year.

Mali.

To deal with educational broadcasting in Mali, we may mention the main programmes :

— " Let's speak French "; a programme broadcast every evening and lasting fifteen minutes. It consists of elocution lessons to train the animateurs of literacy and basic education centres.

— " Teaching Magazine "; a thirty minute weekly programme for teachers and pupils.

— " Magazine of National Education "; refresher courses for primary school teachers.

— " Listeners' Post-box "; a weekly forty-five minute programme establishing a dialogue with listeners in order to complete their training.

— " On the Youth Front "; a programme devoted to the various activities of young people.

— " Radio Service "; gives advice on hygiene to the population. It is broadcast in Banbara, Peulh, Songhoy, Moorish, Tamasheg, etc...

Furthermore, television systems are installed in the market places of some towns (Bamako, Ségou, Katif) to encourage collective listening.

There are 500 literacy and basic education centres provided with receiving sets in Mali at the present time. Every evening listeners can listen to the programmes broadcast for them under the guidance of specially trained animateurs.

Morocco.

In Morocco, the first attempts in school broadcasting date back to 1960. These ventures proved that a radio programme could help pupils to assimilate their lessons better. At that time, five subjects had been chosen; history, geography, recitation, preparation for essay writing and civic instruction. Towards the end of 1961, the Educational Radio Service was officially created. A team of school teachers who participated in two training courses was set up. Two series were prepared, the first one aimed at children at school, the second one at their teachers.

On October 3rd, 1961, His Majesty, the King of Morocco, officially inaugurated the School Broadcasting Service in a small school in Sidi-Bouknaden, a village located fifteen km. from Rabat. To increase the listening capacity more than 2,200 market squares were equipped with 1,000 additional receiving sets and loud speakers. In order to make a better use of educational broadcasting the specialized departments published accompanying material for the people who follow the courses. Moreover, before, during and after the series study sessions and visits were organized.

In the field of television, efforts have been made and a programme was established in 1965-1966. All the broadcasts were live except those on foreign languages.

From December 1st 1965, to October 30th 1967, 176 strictly educational programmes were presented, including:

- — 30 programmes on Moral and Family Education;
- — 30 programmes on Sanitary Education;
- — 30 programmes on Domestic Science;
- — 12 programmes on Civic Education;
- — 26 programmes on Agriculture;
- — 20 programmes on Food Education.

Mauritania.

Each week 7 hours 45 minutes of educational programmes are transmitted by the Mauritanian Broadcasting Service. These programmes are intended for school children («Radio at School », for example), for teachers (" The Schoolmasters Hour ") and also for a much wider public (" Revelation of Islam ", " Social Ethics ", " Woman at home », « Our International Literature ")...

Niger.

It is in this country that truly educational radio and television are perhaps the most widespread and have developed to the largest extent.

a. Out of the 7 000 hours broadcast yearly by Radio Niger approximately 2,500 hours are in French and, out of these, 150 are devoted to specialized magazines and educational programmes, 300 to French culture, *i. e.* about 18 % of the total time. As for the 4,500 hours broadcast in Nigerian languages, more than 500 are taken up by educational programmes for adults, *i. e.* 11%. Here, we should stress how important radioclubs have become all over the country. Their purpose is to contribute to the educational and cultural advancement of listeners, to organize — with this aim in mind — group listening to radio programmes, to provide the staff in charge of radio programmes with a better knowledge of their audience and finally to enable listeners — under the guidance of qualified animateurs — to express themselves and to make their ideas and suggestions known.

With a General Assembly, a National Council, an Executive Committee, an Office which directly controls the carrying out of instructions and general operation, and a permanent team of technicians, radio clubs are now an important social fact in Niger.

b. In the field of television, Niger is now in its third year of experience and has just opened its first extension network with twenty new classes. It should be pointed out that Niger is so far equipped with exclusively school television.

Its aim is to solve certain schooling problems and to increase rapidly the number of people having been to school. In this case television acts as a substitute, its main objective being to compensate the lack of school teachers. Teaching is done solely through television. Programmes are entirely produced in Niger and are perfectly adapted to local conditions. Reception is supervised by monitors who have completed primary school education (Certificate of Primary Studies).

At present, thirteen hours a week for thirty three weeks in the year are put out and 850 pupils follow these programmes regularly. Each lesson is put out four times in the day and lasts from twelve to fourteen minutes. The pedagogy is based on active methods. A research team which includes a psychologist, a sociologist and an ethnologist, follows and supports the preparation of these programmes. The subjects taught are : language (French), arithmetic, Pre-academic training, graphic arts, writing and reading. All these programmes are produced in French.

United Arab Republic.

The activities of the United Arab Republic Radio Service (U.A.R. Broadcasting Corporation) are very important, as a programme for secondary school pupils has existed for the past thirteen years.

One particularly important fact is that it was noted that the pupils who obtained the best results at the various faculties of Cairo University were those who had taken an interest in this series and who had listened to it regularly.

Another point which should be made is that, owing to the lack of receiving sets, a sound library was set up to lend to various school establishments copies of these series together with the necessary reading material.

A series for teaching Arabic was also prepared and broadcast. It appears to be very successful with non-Arabic speaking communities. Accompanying booklets are issued specially. These programmes, which were first transmitted in February 1966, will in the near future be produced in many vehicular languages which will mean that it will be possible to make use of them in other countries of the world, in particular in Africa and in Asia.

School television programmes are planned to be complementary to lessons given in schools and at the universities. These courses are usually scientific but deal with any subject that requires demonstrations and laboratory experiments which are not always possible to carry out in the classrooms.

Foreign language courses are also broadcast. English, French and German are taught in this way. Apart from these, another type of programme, called " Your life is in their hands " provides doctors with recent information on medicine.

In the campaign against illiteracy 95 lessons have been prepared since 1963 and are broadcast at the rate of three a week.

Senegal.

Radio Senegal is making intense efforts in the field of education. A number of programmes are broadcast to large audiences : children, adolescents, men and women, such as " Agricultural Magazine " which is produced with the assistance of agricultural specialists and deals with new cultivation processes, the use of fungicides, fertilizers, and new mechanized means of production. They help toward a better organization by explaining to them the advantages of cooperatives " Women's Magazine ", broadcast in French and in Wolof, is planned with a view to integrating woman in society and to facilitate her relations with her children. A programme called " Thoughts and reflections of wise men " covers various topics touching upon ethics, education, culture, common good, the community. The purpose of this series is to focus the population's attention on the concept of Nation — a fundamental fact — considering the numerous ethnic or tribes existing in African countries and considering also that the coexistence between these various groups was not always effective.

The pilot scheme by U.N.E.S.C.O. in Dakar should be mentioned here; a scheme for the production, among other things of a wide variety of television programmes for the adult education. It began operating in 1965 with a series of television programmes on health and nutrition, as well as with a much wider educational and cultural series called " Meeting Points ".

At present this Centre aims at spreading literacy and at popularizing techniques for workers and farmers. In this way the experimental television station in Dakar produces two regular weekly programmes, one dealing with questions of hygiene and illness; the other with nutritional problems.

All these programmes are transmitted in Wolof which is the language most spoken in Senegal. They are chiefly intended for women. 500 women grouped in ten teleclubs established in various parts of the huge Dakar conurbation follow these programmes regularly.

Chad.

In Chad, the lack of monitors and school teachers in primary schools means that schools are in a very difficult position. Sometimes the number of pupils in the same class reaches 200. Moreover, during a large part of the year it is difficult — and at times even impossible — to communicate between various parts of the country. This is why the officials charge of primary education decided to set up a Committee for Educational Radio which designs and records programmes intended for monitors and school teachers.

Model courses in language, recitation, physical training, and hygiene are broadcast.

Furthermore, in view of the Chad Government's great concern with the problem of women, programmes in French, Arabic and Sara have been specially produced for women and are broadcast daily. This series, called "Your Rendez-vous, Madam", aims at inducing women to understand their part in society better and at helping them to assume their responsibilities more completely.

Togo.

In Togo educational programmes are conceived and produced in such a way as to take into account the particular nature of the audience. It is an adult, collective and village audience. Radio also enables mass educators, agricultural advisers and other instructors to maintain continuous contact with the outside world. Though they often live in distant villages, in remote regions, they can thus keep in touch with what is happening in the country as a whole and with what directly concerns their field.

The really original points of Radio Togo are the organization of its radio-clubs and the rapid training of its animateurs. Educational radio makes it easier to establish a democratic dialogue between summit and base and to get every man and woman to take an active part in the Togo plan.

Tunisia.

Since the Tokyo Conference the most important event worth reporting in reference to Tunisia is the launching of a Television Service. This is in itself a capital event in the history of a people fighting against under-development and aspiring to a better life, a people that needs every means available to help it to fulfil its aspirations, and television is certainly not the least of these.

If the Tokyo Conference enabled the Tunisian Radio and Television Service to benefit from the experience of other organizations, I hope that the Paris Conference will mark the beginning in my country of a new venture for which these two powerful media — radio and television — will be used to help in the fight against illiteracy by educating adults and teaching children.

Please allow me to stress another point : all programmes broadcast by the Tunisian Television Service are basically intended to educate every citizen and to raise their general level.

« *New Society* » is a series aimed at women which proposed to help parents to have a happier relationship with their children. « Youth Club », « Children's World » and many other programmes are produced with women, young people and children in mind, as these are the groups which constitute the real spearhead of development in Tunisian society. But while devoting programmes like these to particular categories of the population, Tunisian television does not fail to direct its efforts in other fields as well, which are directly linked to economic development. I am thinking of programmes designed for rural populations which were for a long time neglected and isolated, but are now the most directly concerned by development; programmes on agricultural popularization, introduction to modern techniques, industrial popularization are broadcast. Every one of these programmes is planned with a view to integrating individuals into society.

However, the most important point I would like to emphasize today is that the Ministry of National Education on one hand, the Ministry of Cultural Affairs on the other and the staff in charge of radio and television are now carefully studying the various possibilities offered by radio and television in the fight against illiteracy, in the field of continuous education for adults.

Next April a Commission entrusted with the task of investigating into these matters will be set up in Tunis in the hope that by next October televised courses for the campaign against illiteracy will be transmitted daily. It is also possible that " Télé-bac " courses will be broadcast during the next holidays.

Now that we have examined some of the educational radio and television schemes in certain African countries, I feel it necessary to stress some of the difficulties we meet each day during our work.

In the field of educational Radio and Television, promoters in African countries have to face many problems. Financial problems owing to the high cost of equipment and production. Insufficient staff : their training is subject to considerable difficulties. Training-courses abroad though undoubtedly useful and profitable do have the drawback that trainees coming back to their country are not always able to understand local conditions; it is increasingly important that they should be trained on the spot but this is not always easy to arrange.

Moreover, the multiplicity of languages, in some of our countries, insufficient means of communication, lack of electrification, high cost of receiving sets also stand in the way. However, in spite of all these difficulties thanks to the youth, enthusiasm and faith of our staff we have some chance of success, and it gives me great pleasure to be able to tell you that the work of a prometor, struggling against many odds, is truly exalting and that his efforts are often rewarded.

Please, allow me, Mr. Chairman, to say how useful this Conference is for us Africans. This Conference, which expresses in the best possible way international cooperation and enables representatives of countries that have and of those that have not to compare their experiences and to exchange their views on the possibility of an increasing cooperation, is — I do not doubt — profitable to all.

I would like to take this opportunity of paying tribute to the organizers of the

Paris Conference and in particular to the O.R.T.F., to the E.B.U. and to the Regional Radio and Television Organizations, that is to say U.R.T.N.A., I.R.T.O., A.B.U., for having helped to organize this magnificient occasion and enabled us to be in your midst.

There can be no doubt now that Africa has made a good start in educational and school radio and television. To be fully aware of this, you need only to compare the number of African delegates taking part in this Conference and those at the Tokyo Conference.

Recent developments of educational radio and television in the organizations of North America and Latin America

Wednesday, March 22, 1967

The task of presenting recent developments of Educational Radio and Television in the organizations of North America and Latin America was entrusted to seven speakers :

Mr. EUGENE HALLMAN
Vice-President, Programming
Société Radio Canada/Canadian Broadcasting Corporation, Canada

described recent developments in Educational Radio and Television in Canada, on the provincial as well as on the federal level.

Mr. WILLIAM G. HARLEY
President of the National Association of Educational Broadcasters, United States

summed up developments in the United States since 1964.

Mr. ALVARO GALVEZ Y FUENTES
Director General of Education by Audio-visual Methods
Secretaria de Educacion Publica, Mexico

stressed the urgency of the educational problems with which educational radio and television in Mexico is faced.

Mrs. ALFREDINA DE PAIVA E SOUZA
Director of the Fundaçao Joao Baptista do Amaral, Brazil

outlined the activities in Brazil of the Brazilian Radio and Television Association and the Fundaçao Joao Baptista do Amaral.

Mr. MAXIMO H. SALINAS ZEPEDA
Assessor to the Director General, Radiodifusora Nacional, Nicaragua

spoke about the efforts undertaken in Nicaragua, Cuba, Salvador and about projects that are being carried out at the moment.

Rev. MANUEL BENAVIDES
Director of the Instituto Nacional de Téleducacion, Peru

gave a survey of educational radio and television in Bolivia, Colombia, Ecuador, Venezuela and Peru.

Mr. V. R. DI PASQUALE
Director of the Department of Audio-visual Teaching
Ministerio de Educacion y Justicia, Argentina

described the situation in Chile and in Argentina.

You will find in Chapter 5, a list of descriptions of activities established by these organizations.

Eugene Hallman
Vice-president, Programming — Société
Radio Canada/Canadian Broadcasting Corporation

Educational radio and television in Canada

This report is in the first place a survey of recent progress in Canada.

In September 1965, the Broadcasting Commission created by the Federal Parliament published its recommendations for the future of radio and television. Although this report largely covers C.B.C. and the laws regulating private and state-owned radio, we are here dealing essentially with educational radio and television.

Up to now, the C.B.C. and its affiliated stations have been the only ones to broadcast radio and television school programmes. Whenever provincial education offices have initiated the organization of television school programmes (private and other stations), the C.B.C. has furnished the necessary equipment for local transmission. As of today no radio or television equipment really belongs to our educational department.

Recognizing the extreme importance of television in the field of education, the Commission of Radio and Television has recommended the establishment of transmitting stations used exclusively for educational purposes. The educational programmes of each State will be assigned a wave length or channel so they can broadcast independently of direct ministerial control. This is to be imparted to the federal structure of Canada and it is also due to the fact that broadcasting is under the authority of the Federal Government, whereas educational departments are controlled by the provinces; these dual responsibilities have prevented the Federal Government from exercising control over educational broadcasting stations. The demand in the field of educational radio and television has increased so much that it has become difficult for C.B.C. and private stations to meet it. Since 1964, on the advice of the National Advisory Council for Educational Radio and Television, C.B.C. has set up a national service consisting of two weekly half-hour enrichment programmes aiming at all English-speaking provinces.

Approximately 62 of these programmes have been conceived and produced by C.B.C., the remainder being re-broadcasts of preceding series or of programmes furnished by other educational sources. The development and evolution of educational radio and television should be studied region by region. Since 1964, there has been a notable increase of educational radio and television series at university level.

Six televised courses helping students pass their examinations have been presented during the winter on Saturday and Sunday mornings. The universities of Montreal, Sherbrooke, Ottawa, Sudbury, Moncton and Laval University in Quebec participated in the choice of subject matter for the various programmes, and the degrees they confer are interchangeable. The University of Montreal has used C.B.C. equipment to broadcast a complete radio course aiming at the training of high school teachers. This radio course is supplemented by a summer course at the university itself. The University of Montreal is also experimenting with refresher courses for general practitioners. This series is broadcast by the French-speaking network of C.B.C. The school programmes of the province of Quebec are now held up while the educational departments evaluate results obtained so far. The provincial government envisages the possibility of the adoption of educational radio and television by the educational departments of the whole province. Nova Scotia has very effectively organized educational television departments for primary and secondary levels. More than 400 educational broadcasts a year, are prepared together with C.B.C. and are transmitted throughout the province by the C.B.C. network and its affiliated stations. It is foreseen that these programmes will be transmitted equally to the province of New Brunswick and Prince of Wales Island. In Manitoba, 45 hours of broadcasting have been scheduled for regional and provincial use. Regional cooperation between the four Western provinces (Manitoba, Saskatchewan, Alberta and British Columbia) may be considered as a model of teamwork. The province of Alberta receives a total of about 45 hours of television broadcasting. Moreover, the capital, Edmonton, is served by private stations and by stations belonging to C.B.C. and which fulfil its educational needs. In Ontario, the educational departments have produced 150 half-hour programmes during the first operational year of educational radio and television which have been broadcast throughout the territory of this vast province on the C.B.C. networks of Ontario. In certain Northern parts of the province, special programmes aimed at French-speaking children have been broadcast by the French stations of C.B.C. and its affiliated stations. The educational programmes of national and provincial radio have not increased in number since the Tokyo Conference. But a good performance has been achieved and we think that it will stay at this high level.

Along with the increase of provincial initiative, C.B.C. and the educational Association of Canada have come to a federal-wide agreement with a view to the constitution of a Canadian Broadcasting Commission which is to promote rational use of television for educational ends. It is hoped that with the help of this National Comission inter-provincial exchanges as well as enrichment programmes for provinces may be achieved.

The Commission itself will deal with all organizational problems regarding the provinces and will be the main platform for provincial and local problems concerning the use of the Canadian network. To meet the special needs arising from the fact that ours is a bilingual country, a French and an English council will meet separately if need be to establish the programme schedule throughout the provinces. Following the publication in 1965 of the report of the Radio Commission, the Secretary of State published last year a White Paper on broadcasting incorporationg future legislation. The government there states that " Federal policy in the field of telecommunications should not hinder but facilitate the task of provincial educational authorities ". It will be necessary to study the needs for educational radio and television equipment throughout the country in close cooperation with the provinces. The government has also expressed its intention to examine immediately the possibility of establishing a new federal organization to which the administration of public radio stations will be entrusted. This organization will have authority to reach agreements with any province requiring equipment and programmes in the educational field. This Radio Commission will depend on the allocation of broadcasting rights and hours.

High frequency will probably meet the needs of educational television in Canada, although in certain regions it is still feasible to go on using V. H. F. frequencies. Since the Paris Conference, Parliament has submitted to the government a complementary survey of the costs involved in the acquisition of new equipment. No vote has been taken yet.

However, the projects of the Ontario and Alberta provinces are rapidly progressing and the new organization intends to place educational radio and television under the further authority of provincial educational departments.

May I briefly recall the Tokyo Conference of 1964, when the delegates enthusiastically approved the idea of a series of programmes produced by C.B.C. in cooperation with U.N.I.C.E.F. Thirteen half-hour broadcasts were presented aimed at 11 countries of South East Asia. These programmes have also been broadcast four times on our English network as well as in the U.S.A. Moreover, these programmes have recently been used in the Philippines and by A.B.C. in Australia.

It is encouraging to see that the initiatives taken by our past conferences have had practical effects, and I would like to add an even more interesting detail.

After the success of this series of broadcasts C.B.C., the educational television of the U.S.A. and U.N.I.C.E.F. have decided to produce a series of six colour telecasts, two of which will be produced in Africa, two in Asia and two in South America.

The sound track will be multilingual so that the programmes may be broadcast in any member country in their corresponding vernacular.

William G. Harley

President, National Association of Educational Broadcasters

Educational uses of radio and television in the United States

Educational broadcasting in the United States encompasses a wide spectrum of programming, ranging from broadcasts for pre-school children to programs for the aged, from formal college courses for credit to discussion programs on public affairs, and from refresher courses for physicians to culinary tips for housewives. Radio and television are recognized as powerful and essential media for extending educational opportunities to people of all ages and circumstances.

The major portion of these educational programs emanate from non-commercial educational stations that are owned and operated by school systems, universities, states or community corporations. There are 350 such radio stations and 126 such television stations.

In America, education is handled largely by public, tax-supported school systems and universities that are controlled by municipal, county, or authorities of the individual states. Thus, we have no national educational authority or national curriculum; education is a local matter. The radio and television stations operated by educational institutions reflect this pluralistic approach to education; so, the decision as to what is to be broadcast is made by the educational station.

The most exciting educational broadcasting development in the United States is the publication recently of the Report of the Carnegie Commission on Educational Television. The report recommends establishment of a non-profit educational broadcasting corporation supported by private and government funds, providing for a national network program service and a plan for assuring adequate financing of existing and future educational stations.

The Carnegie report is being carefully studied and some of its recommendations have been incorporated in proposed legislation which President Johnson has sent to the Congress. If such a system as the Carnegie Commission Report recommends should come into being, the United States would have a balanced system of broadcasting in which educational stations linked together from coast-to-coast would complement the services of the three commercial networks, thus providing Americans with a wide spectrum of programming choices of still greater diversity and richness.

The attention given to non-commercial educational stations should not lead to the assumption that America's commercial stations offer no services to education. Along with their entertainment programs, they offer many excellent news and public affairs programs, provide first rate coverage of political campaigns and national elections, and produce many fine documentary programs.

I propose, therefore, to present a report on not only the productions of educational stations but also on educational programs provided by commercial networks.

From the early twenties, radio has been used in America to supplement the work of teachers in the schools and to extend the services of universities. Educational radio stations continue to grow in numbers and to provide important instructional services — in fact, new technical developments, permitting simultaneous transmission on several channels from the same transmitter, are expanding the educational service opportunities for radio.

Television during the past fifteen years has had a phenomenal growth as a medium for instruction. Today it is estimated that over a fifth of the students in the United States receive some portion of their teaching through television. No facet of the curriculum from kindergarten to college graduate-level instruction has been neglected. Thousands of telecourses are currently being broadcast in subject areas ranging from art to zoology. The role of television varies from providing almost total teaching to serving as a means of supplementation and enrichment.

One of the new approaches to instructional television in the United States came about as a direct result of a technique learned at the Second E.B.U. Conference on School Broadcasting, in Tokyo.

A number of educational broadcasters are experimenting with a technique demonstrated there known as the " inquiry method; " that is, the design of programs which invite the child to make his own deductions from his observations of the screen rather than merely accept factual information from a " talking face. "

The quest for educational material to meet the needs and interests of teachers and students is a continuing process as is the effort to increase the quality and effectiveness of such materials.

Toward this end, there are increasing efforts to centralize program production and eliminate unnecessary local duplication through the establishment of state and regional networks. Six states now have network systems and there are three regional interconnections of educational stations.

In the Midwest, schools in a six-state area are served with instructional programs beamed from an airplane.

Another means of sharing superior instructional programs is through tape libraries of programs distributed by mail. Three such instructional libraries serve educational television stations; a fourth serves educational radio stations.

Superior adult programs are provided by National Educational Television (N.E.T.). in New York, which serves as the national program acquisition and distribution center for educational television stations and makes available by mail some five hours per week of taped public affairs and cultural programming.

Unlike commercial stations, educational stations have never been interconnected nationally; however, there have been several experiments recently in which educational television stations have been linked to demonstrate the benefits of such interconnection. Recently N.E.T. announced plans to interconnect forty stations in the Eastern half of the country and the Ford Foundation has provided $10 million to provide for programming development and interconnection costs for a demonstration of a coast-to-coast hook-up of educational television stations. This demonstration is related to a proposal the Foundation has made for a non-profit corporation to supervise a domestic satellite which would provide for free interconnection of educational stations.

In any case — whether by satellite or land lines — plans are advancing for nation-wide interconnection of the educational radio and television stations of the United States.

Over fifteen million children were enrolled in televised courses at the elementary schools in the United States last year. About 431,000 enrollments are reported in televised courses in higher education of which 97 % were for credit. Many of the educational stations broadcast such courses for credit or non-credit, and some commercial stations offer such telecourses in cooperation with nearby colleges and universities.

The Chicago Junior College affords students the opportunity to take a complete junior college curriculum entirely by television. Courses in a great number of disciplines are televised over closed-circuit at universities as a means of providing superior instruction to large numbers of students on campus situated in different classrooms and even dormitories. It is used extensively in medical and dental schools so that many students may obtain a close-up view of surgical procedures. In the State of Texas, a closed-circuit television system links eleven colleges for the presentation of basic courses given by outstanding professors. Groups of universities in the Midwest and the South are developing college courses for credit to be shared by television.

Television is being used extensively in vocational and professional training, helping to re-train workers displaced by automation, to up-grade their skills, or to help provide in-service or refresher courses for doctors, dentists, and nurses.

The Radio Service organized by Albany medical College, is unique of its kind; by employing a combination of broadcast stations and a group of shortwave transmitters, it allows faculty members of the Albany medical college to present lectures illustrated by slides, to reply to questions asked via shortwave by physicians gathered in sixty community hospitals in the Eastern part of the United States.

There is a growing awareness of the power of radio and television as social instruments which can join in the attack on poverty, illiteracy, and sickness — helping to provide a more productive life for the aged, to return the jobless to economic self-sufficiency, to help rehabilitate the handicapped, and to accelerate the development of disadvantaged children.

Besides helping those suffering from the effects of social, economic, and health problems, the broadcast media are playing a no-less-important role by aiding in the understanding of these conditions and what has caused them.

Education in a democracy has the responsibility of lifting the level of understanding of people and giving the individual a knowledge of himself and his society and tde perplexities in each.

American broadcasters are increasing the amounts of programming devoted to critical social problems; urban squalor, air and water pollution, crime and delinquency, poverty and discontent — exposing social sores to public view.

Radio and television can not only reveal negative situations; they can also make positive contributions to help alleviate such conditions. By programming specifically for people in deprived areas, stations can help toward their rehabilitation by extending educational services otherwise unavailable.

A program format which the commercial networks in America have developed to a high degree is the special documentary — a single program usually an hour long, which examines in depth a critical issue, unfolds history, or presents a superb example from the arts.

A recital of a few program titles reflects the nature and variety of such specials :

From A.B.C.	Teenage Revolution; Sex in the Sixties; and the Revolution of the Three Rs.
From N.B.C.	Segregation in the North; Nuclear Countdown; and Michelangelo; The Last Giant.
From C.B.S.	The Polluted Air; The Population Explosion, and Biography of a Bookie Joint.

In order that Americans may better understand the world around them, radio and television constantly focus on other parts of the globe, especially on nations in transition.

The A.B.C. Network recently undertook a most ambitious project, a profile of the continent of Africa : its geography, culture, economy and political structure. Five hundred thousand feet of film shot by six camera crews was edited down to some 10,000 feet to fill a full evening.

A recent innovation in commercial network television is a technique for involving the audience through an informative testing procedure. C.B.S. pioneered in this sort of broadcast with a National Drivers' Test. Other programmes have tested Americans' knowledge of current affairs, health, taxes, and on the workings of their government.

A world " first " was achieved on May 31, 1965, by a two-way exchange via the Early Bird satellite between a school in Paris, France and a school in West Bend, Wisconsin. For the first time in the history of the world, school children saw and spoke to one another directly across an ocean and participated in a common educational experience.

Surely through such international school broadcasting in the future we can help young people, who are to live in that future, to increase international understanding and good will.

Today, we are living in a world which is being transformed by new applications of technology and new forms of communication. It is also a world which is haunted qy the destructive powers which modern science has unleashed, so that it is vital, as Margaret Meade has pointed out, " that we have reason for faith in our world, a reasoned belief in the future of human beings ".

It is right for us to be concerned with today, it is also right for us to have hope for tomorrow, for upon our ability to hope for the future will depend our willingness to act in the present.

The speed and constructiveness with which modern communications technology is used to spread knowledge and enlightenment to all parts of the world will be a measure of that hope.

Alvaro Galvez Y Fuentes

Director General of Education by Audio-visual Methods — Secretaria de Educacion Publica, Mexico

Educational uses of radio and television in Mexico

Twenty years ago, when the General Conference of U.N.E.S.C.O. was meeting in Mexico, a young Mexican took the floor and made a passionate plea for the universal use of all radio and television resources in the service of the extension of education. " There is no reason, he said, why the best physics teacher in England should not have pupils throughout the world. There is no reason why the lessons of eminent personalities should not be preserved in a sound library. There is no reason why tomorrow's generations should not have at their disposal the messages of the Newton and Pasteur of today. The developing countries, which have so many shortcomings, and which so badly need first-class teachers, should have access to the teaching of the most eminent personalities. Let us create the international university of broadcasting. » The assembly applauded enthusiastically and unanimously adopted this proposal which has been registered in the annals of U.N.E.S.C.O. I was that young man. In 1965, 20 years later, after a career in the different fields of commercial radio and television, I was charged by the President of our Republic, who had just taken up his functions, with the mission of developing educational radio and television in our country. Our Minister of Education has thus defined the projects of the government;

School work will be supported and multiplied by the use of radio broadcasting, film and television. On the one hand, the government welcomes the spontaneous cooperation of private enterprise, and on the other hand, it is about to establish an exclusively cultural network, which, in three successive stages, will cover the entire country.

I believe that this will be the first instance of a national network exclusively devoted to educational and cultural aims.

In Mexico, more than 25 % of the national budget goes to education. Undoubtedly, this figure is still dramatically insufficient. This is due to the fact that our economic possibilities cannot catch up with the enormous demographic growth which exceeds 3.3 % per annum. Our resources are not sufficient to train the number of teachers required, or to build enough schools. They do not allow for the installations of science laboratories with adequate equipment. This explains the importance that the government of Mexico attaches to modern communication media to bring education to the masses.

Up to now, our efforts were isolated and heroic. The National University with its radio station, and the National Polytechnic Institute, on the second channel of Mexico City, do remarkable work in teaching and broadcasting. Other private institutions, such as the Ibero-American University and the Institute of Technology at Monterey have closed-circuit equipment where they train teaching specialists and produce programmes for the commercial networks.

Commercial television in Mexico has understood the importance of its educational task, which includes, in particular, language teaching, civic education, hygiene campaigns, and at the moment, is undertaking a vocational guidance campaign.

It was felt that a network essentially devoted to educational and cultural aims was badly needed, *i. e.* a network parallel to the one already in existence, nation-wide in scope, that would not exclude the commercial networks already in operation. This year, we are setting up pilot radio and television stations, which will have Mexico City as their centre, and which will belong to the national system. We are hoping that within 5 years they will cover the entire country. We are also ready to start the installation of various production and broadcasting centres. Of course, to employ our resources wisely, we have carefully graded our needs and we have begun with the most urgent ones: to combat illiteracy, to cut down the barriers that prevent children having finished their primary schooling from having access to secondary education.

The facts are impressive. Two out of 3 adult Mexicans still do not know how to read and write. Out of 1,000 pupils enrolled in primary schools, only 2 succeed in obtaining a professional qualification. What is even more serious is that the needs are greatest precisely in those rural areas where means of communication are least available or practically non-existent, *i. e.*; in small communities of under 2,000 inhabitants, scattered throughout the valleys, the mountains and the forests, where for too many young people, secondary education is no more than a far-away dream.

Literacy and middle level education have therefore been our first aims. We have initiated a television course for primary teachers who are trained under the guidance of national and international experts. Furthermore, a group of teaching specialists has studied methodology for more than a year. Three decisions were taken:

1. To use exclusively letters of the " script " type, which economize 55 % of the

pupil's energy as it represents an intermediary solution between print and handwriting and permits the understanding of the two types of writing.

2. The teachers decided to use an eclectic methodology taking the best from the available teaching systems.

3. It was decided not to apply methods until systematic tests had proved them effective.

We are now starting the third cycle of courses. Last year, courses were transmitted twice, using the daily half-hour that, by law, commercial stations must reserve for educational programmes. It should be pointed out that the companies involved have contributed to our efforts with enthusiasm and generosity.

Television courses consist of 80 lessons, 5 per week, transmitted from Monday to Friday. There are also radio courses. As many stations are available, we broadcast on different channels and at different times. There are appropriate schedules for all those who are willing to learn.

In the radio courses, we particularly encourage the pupils to seek the help of somebody who knows how to read and write. But we now know that this is not absolutely necessary. We encourage the formation of groups for collective use by offering facilities — classrooms, chairs and receiver-sets. The entire country has enthusiastically responded. In Mexico City, alone, in the course of the second transmission, more than 105 groups of all kinds were formed. Up to now, we have printed 2 million ABC's, distributed free with no other formality than the name and address of the illiterate going to use them.

A twofold assessment, one by our own research system, and one by a specialized private enterprise, have yielded very similar results. It should be emphasized that the absentee percentage is still high, *i. e.* 38 %, but less so than in direct teaching. But the results are striking, as out of 100 people who regularly follow the courses, 97 learn how to read. When the course is about to end, the pupils are asked to write a letter. We have received hundreds and thousands of these letters. They are so frank, so sincere, so simple and so touching that they represent the greatest reward possible for our effort and the most authentic testimony of the effectiveness of radio and television as educational media. We have applied the same system for secondary educational television as the one used for literacy planning. We consult teachers, then prepare the courses, record them and test on control groups; three with a teacher and one without. Why? Because our courses are specially aimed at communities without secondary schools. We also hope to reach an important group of housewives and part-time workers who have free mornings. In September, we will put on the air 1st year courses, while continuing to prepare and test out the 2nd and 3rd year courses. Many commercial television stations have generously lent us free time for the benefit of the community.

When a minimum of 15 people form themselves into a group, the Ministry of Education appoints monitors; the television class from thereon depends administratively on the nearest secondary school, and its studies will have the same value as those in direct teaching.

Although we have not yet begun the courses, several television classes have already been formed spontaneously .

We hope to have an initial enrolment of 15 to 20,000 pupils. Our next steps in the use of educational television will be :

the spreading of modern techniques to further our agricultural development and the training of a labour force to speed up our industrialization. Radio is already being used to improve primary instruction and to accelerate the training of school teachers in the rural areas. Our training centres, our experience, our text-books, our methodology, copies of our films and videotapes are made available to the Latin American countries that have problems comparable to ours. We have taken care to lowerall barriers in this respect, for by experience we are very much aware of the importance of international cooperation. We have been generously assisted by C.E.T.O., by American Television and the Italian Telescuola. But in other countries we have encountered insurmountable difficulties. We must admit that despite all our good intentions we have not as yet been able to find the right use of modern means for spreading culture on a human and universal level. One of the participants here said that from a practical point a view, it is discouraging to note that there is seldom international cooperation unless of a unilateral and colonialistic. type. These new means of communication, instead of promoting better international understanding, become, after some years, the instrument of an ever-growing nationalism that aggravates dissension between peoples. But we are all convinced that the important thing is to achieve effective cooperation throughout the world. The very fact that this Conference is taking place is evident proof of this. We also know that a Conference such as this, placed under the benevolent auspices of the E.B.U. not only periodically invites all countries to review the results obtained in the field of educational radio and television, but also paves the way for more effective international cooperation. Our too materialistic modern world is principally concerned with an exchange of trade; this common market, now a reality, levels obstacles, and permits an easier circulation of commercial products. However, only a handful of men, like you, are conscious of the equal importance that the common market of ideas has acquired in our time. For if it is undeniable that economic values have a great influence on the cultural aspects of society, the opposite is also true. Education and culture will radically transform the masses, prepare them for production as well as consumption, and at the same time, stimulate the general economy, for finally, mass education anywhere will augment the possibilities of trade throughout the world. Poverty anywhere is a danger to the prosperity of the rest of the world. Just as 20 years ago, I appealed to the representatives of the entire world, today, before this international assembly, I repeat to you, who have everything in educational radio and television, share it with us. Your skills, your experience, your knowledge, your teachers, your laboratories, your film libraries should be accessible to new countries where educational radio and television are still in their infancy. Let us hope that the noble resolutions of this Conference will not remain in the waste paper basket where so many recommendations of so many international assemblies lie dormant.

Let us pass from words to deeds! Let us, courageously and boldly, build together a better world for future generations.

Mrs Alfredina de Paiva E Souza
Director, Fundaçao Joao do Amaral — Brazil

Educational uses of radio and television in Brazil

Ladies and Gentlemen, I am speaking to you on behalf of the A.B.E.R.T., the Brazilian Radio and Television Association, and of the Fundacao Joao Baptisto do Amaral.

As everyone knows, Brazil has an area of 8 500 000 square kilometers. It is, in size, the fifth country of the world, after the U.S.S.R., China, Canada, and the U.S.A. if one includes Alaska. It has 85 million inhabitants, half of whom are concentrated in the big coastal cities and in the south. The population increase per annum is almost 4 %, representing one of the world's largest population explosions.

Urban problems are alarming; living conditions in the countryside are very hard, due to obsolete agricultural methods, and also to socio-economic particularities that have their roots in the latifundiah system dating from the colonial era.

At present, the country is entering a period of intensive industrialization which everyday demands a more specialized labour force; the labour force is still inadequate because of the existence of 30 million illiterates, young people and adults, while only 55 % of children between 7 and 14 receive school education.

The use of mass media for education presents special difficulties owing to the political structure of the country, which comprises 22 autonomous States and 4 territories under Federal Government authority.

This will be enough to give you an idea of the educational problems in Brazil, which may be summed up under two major imperative headings :

— to speed up the formation of a labour force without which general progress in the country would be seriously impaired;

— more important still, to integrate the populations that live in extremely difficult conditions around the cities and in the interior of the country.

Only radio and television can provide us with the means to face problems of such importance.

I will now describe the efforts that have already been made and the perspectives that educational radio and television have opened up for us.

Up to now, Brazilian radio and television were of a commercial nature. We have 39 television stations and more than 800 radio stations.

Although their initial aim was to reach a large audience, their contribution to culture and to education has always been of great value. It can be said that in Brazil, like everywhere else, educational radio and television was born at the same time as radio and television in general. The latest survey that the A.B.E.R.T. has made of weekly programmes of radio and television stations reveals that programmes are being broadcast on such varied subjects as the arts (music, ballet), religion, vocational guidance, science, domestic science, agricultural training and foreign languages. However, the educational programmes on radio and television deserve particular attention.

Leaving aside earlier experiments, three projects in Brazil now aim at assisting those who have not benefited from regular primary or secondary education. Article 99 of the Brazilian Constitution dispenses all persons over 16 from compulsory school attendance. More than 10 million Brazilians have had no secondary education, either for financial reasons or because of lack of schools in their native town.

To enable them to catch up the educational radio and television section for secondary education in the Ministry of Education has initiated educational broadcasts which are relayed throughout the country, in agreement with article 99 of the Constitution. This is done in close cooperation with the Department of Education in each State, which organizes programmes with a subsidy from the Ministry. There are no model broadcasts for the country as a whole; each State prepares its own educational programmes and the necessary documentary support.

In 1965-66, a complete educational radio series was launched in 13 states. For 1967, fifteen courses lasting from 10 to 12 months are scheduled. Pupil-teacher contact is made by correspondence when pupils are isolated, or else through monitors who supervise collective reception. Pupils enrolled in the local centres are provided, without charge, with the accompanying material in 5 subjects.

The same educational radio and television section of the Ministry of Education has launched a similar television programme in the State of Sao Paulo. The People's University at Rio de Janeiro, founded in 1963, also transmits an educational series, again in agreement with article 99 of the Constitution. 12,000 people enrolled. The pupils undergo examinations in traditional schools and receive a diploma permitting them to continue their studies up to university level. These results may be ascribed to the high quality of the courses and the accompanying material.

As far as illiterate adolescents and adults — totalling 30 million — are concerned, the Fundaçao Joao Baptista do Amaral, a private institution on a philanthropic basis, produces programmes conceived for functional literacy projects, *i. e.* education for communal life, including the learning of reading and writing, the 4 arithmetical operations, the general principles of hygiene, the basic elements of history, geography and economy, together with the problems of the human and social advancement of the individual and the possibilities open to specialized labour. This series of programmes has received the approval of the Ministry of Education and a subsidy from the Department of Education in the State of Guanabara. The theme of the series, « The future begins today», is particularly well adapted to a developing country; seventy-eight programmes are being produced to be broadcast 3 times a week over a period of 6 months. The basic motivation chosen was football, which permits, through widening of perspective, the insertion of 26 teaching units; *i.e.* one per week. The pupils are assembled in listening groups at work, in parish halls in barracks, in certain clubs and union centres, and sometimes in classrooms near their work. They respond to the broadcasts through note-books provided as documentary material. They read, write and give oral responses under the supervision of a monitor who helps out with minor problems. A group of primary and secondary school teachers, attached to traditional schools, evaluate results and progress, either by comparison with a control class receiving direct teaching, or through examinations and tests. The accompanying material is distributed free to the pupils. Monitors are provided with a text-book after a preparatory television course of four lessons explaining the aims of the series, the techniques employed, and the role they will have to play. The Foundation has established 105 listening centres which could accommodate 20.000 pupils. There were however no more than 2,720 pupils at the first broadcast. But this figure was doubled during the second one and the result of the experiment is now 7,000 literate people.

These results have opened up wide horizons to educational radio and television in Brazil, and the Federal Government has taken measures for its implantation throughout the country. To this end, 103 frequencies, exclusively serving educational and school broadcasts, have been reserved, 53 of which are on the V.H.F. wavelength of the large cities. The remaining 50 frequenceis are on the U.H.F., at the rate of 2 to each capital city. These frequencies will be allocated to the universities, departments of education in the different States and educational foundations, which will use them exclusively for educational purposes. In the north-eastern part of Brazil, at the University of Recife in the State of Pernambuco, the construction of the first station exclusively reserved for educational use has already begun. Furthermore, the Brazilian Congress, in December 1966, passed a law setting up the Brazilian Centre for Educational Television in Rio de Janeiro. This Centre will be charged with pedagogic research so as to lay the foundations of a national system of educational television and with production and distribution of teaching programmes at all levels.

At present, the country has 500 audio-visual centres dependent on the Federal Government and some twenty others attached to the States or to private institutions. Created to serve the present teaching system, their responsibility will be enlarged to include the preparation of the accompanying material for the National Centre Programmes.

Maximo H. Salinas Zepeda
Assessor to the Director-General —
Radiodifusora Nacional, Nicaragua

Educational uses of radio and television in Nicaragua, Cuba, El Salvador

Mr. President, ladies and gentlemen, the honour of speaking to you about the Caribbean and Central American countries, has fallen to me.

Salvador, Panama, Nicaragua as well as Cuba are represented at this Conference. NICARAGUA is attending this Conference mainly to get acquainted with the results obtained in other countries in the field of educational radio and television, and in order to benefit from them, as up to now our own efforts have been relatively limited. In view of the immense progress that you have made we can only express our desire to make up for lost time. Our government wishes to emphasize the importance it attaches to educational radio and television and would like to extend its application.

A small-scale experiment in the field of educational radio has already been carried out with the cooperation of the Catholic Church. The results were excellent, permitting us to look forward to the planning of more ambitious programmes. By means of this initial attempt part of the population achieved literacy and the needs of the most underprivileged of our citizens are the first thing we must attend to. Our government is now determined to launch a national programme which we hope will reach the masses and give them the key to knowledge, the alphabet.

In CUBA, during 1966, the Instituto Cubano de Radiodifusion, a government organization which supervises the nation's radio and television production, created several departments to organize programming. Up to 1959 radio and television in Cuba, though already quite advanced, were mostly confined to commercial use. In 1961, a literacy campaign using the resources of radio and television reached close to a million people.

Since 1961, the Ministry of Education has to the same end ordered special programmes. At the present time, the National Television Service broadcasts some 20 educational programmes a week. These broadcasts, supervised by the Ministry of Education, are aimed at teachers as well as pupils. Cuban Television also broadcasts programmes the aim of which is to raise the cultural level of the entire nation.

Cuba has now 3 commercial radio networks with extremely varied programmes including an average of 10 hours of educational broadcasts per week.

In EL SALVADOR, large-scale television planning has already yielded some interesting results, El Salvador, with a territory of 20,000 square kilometres and a population of 3 million, is the smallest country in Central America. Due to its demographic affluence in very small areas, it presents special problems. But the fact that Spanish is the only vernacular enables these problems, to a certain extent to be reduced.

Technical studies have shown that, given the country's geographical structure, rudimentary equipment is quite sufficient ; a single aerial is enough for 2 relay stations to cover the entire country and at the same time gives a satisfactory picture definition. These favourable conditions led the government in 1964 to set up a special commission to study the possibility of opening up an educational television department.

Government, industry, commerce and agriculture were represented on this commission, which thus makes use of both private and national resources.

Through N.H.K. the Japanese Government has made a technical study of broadcasting and receiving equipment required, taking into account the social and geographic conditions.

Teams have been sent to various regions and the project is now well under way.

At the beginning of 1966, the Department of Education by Television was set up.

Dependant up to now on the Ministry of Education, it is due to become autonomous in the near future. In the course of this year, 3 stations were completed for the different school levels.

Rev. Manuel Benavides
Director, Instituto nacional de
Teleducación, Peru

Educational uses of radio and television in Bolivia, Colombia, Ecuador, Venezuela and Peru

I am going to present to you the report on educational radio and television in the " Bolivian Countries ", *i. e.* those that owe their political independence wholly or partly to the action of Simon Bolivar. They are five : Bolivia, Columbia, Ecuador, Venezuela and Peru.

In Bolivia, there are approximately 20 radio stations which are all private. At present these stations do not broadcast educational programmes strictly speaking, although some of them have started in this direction. Bolivia does not yet have television but it seems that the Government is undertaking studies to establish it for strictly educational purposes.

In Ecuador, there are two television channels at Quito and Guayaquil, but I am not quite certain that they are broadcasting educational programmes. As far as radio is concerned, a private station at Riobamba broadcasts programmes for adults rather like those of Radio Sutatenza in Colombia.

As regards Colombia, we may divide our report into four points :
— popular cultural activities of Radio Sutatenza;
— educational television of the Ministry of Education;
— educational training by universities;
— literacy campaign.

1. We might again mention Radio Sutatenza which is well known to all delegates at this Conference as the initiator, not only in Colombia, but in the whole world of the radio school applied to literacy-teaching and adult education. Created in 1948, it can now look back on 19 years of experience and achievement. It broadcasts programmes on long and short wave lengths through 50, 25 or 10 kilowatt transmitters located in several towns and specially in the rural area of Sutatenza and covers the greater part of the country. Radio Sutatenza may be considered to be one of the best radio organizations in Latin America.

2. As regards educational television, the Ministry of Education, with the aid of American volunteers from the Peace Corps, created in 1963 a programme of aid for schools. It is broadcast on a national channel which covers almost all of the territory. Aimed at children of elementary level, the programmes include language, arithmetic, natural science, music and religious education and are transmitted mornings and afternoons. Modern studios equipped with up-to-date material for the cutting of tapes have recently been inaugurated. In spite of the problems that arise from the not altogether perfect Spanish of the Peace Corps Volunteers, the television teaching has progressed faster than traditional teaching could have done.

3. At the university level, all universities in Colombia are going to establish central departments for audio-visual equipment. At present the Averiana de Bogota University has set up a class in the second year of a four-year course which train production and direction specialists for educational programmes.

4. As for literacy teaching, a vast project will be launched in 1968 which will make use of the national television and commercial radio channels. The collaboration of the radio services and of universities will be essential to prepare this project. The broadcasts will all be aimed at adults residing in urban centres. It is hoped that six towns of more than 5,000 inhabitants will, in a first stage, benefit from this literacy campaign.

I will now deal with PERU, and if I may, I will spend a little more time on this part of my report for as Director of the organization which deals with all educational radio and television activities, I have much more detailed information about it.

My report will be divided into five parts :

— general organization of educational radio and television in Peru;
— outline of the programmes;
— general features of these programmes;
— problems of development;
— the future of tele-education.

1. Up to 1964, educational programmes suffered from a lack of coordination. But, in July 1964, by a decree of the President of the Republic, a semi-official organization attached to the Ministry of Education, the National Institute for Tele-Education was created. Its role is to promote, coordinate and help to produce all educational programmes from the pedagogical, technical and economic points of view. The production of the programmes is incumbent on the centres of educational radio and television. These centres may be official, semi-official or private and are administered in the same way as the colleges in the corresponding towns or areas. Today, five radio centres and four television centres are operating and four radio centres and two television centres are under construction.

2. Outline of programmes.

a. *Radio* programmes are broadcast in the three geographical areas of the country, the coastal regions, the mountains and the forests. Some of them are enrichment programmes aimed at school children, others consist of literacy or adult education programmes. They are mainly in Spanish, the official language, but in some areas on the Bolivian border, at Puno for example, Quechua and Aimara are also used.

b. Up to now, *television* programmes are broadcast in three towns; at Arequipa, six hours a day; at Lima, the capital, four hours per day; at Tarma, one hour. The broadcasts are aimed at children, adolescents and adults. Children of pre-school age watch the broadcasts at home or in television centres. Complementary programmes are received in schools. The adolescents are mostly young servants who watch the programmes in the houses where they work.

These programmes deal with all the subjects of the primary education syllabus.

Adults attend literacy programmes in teleclasses; those who have finished their secondary studies and wish to widen their knowledge in science, literature, etc. follow the programmes at home.

3. General features of the programmes : by tele-education, in the etymological sense of the word, we mean broadcast or televised educational programmes. Teachers assisted by technicians are responsible for these programmes. Particular attention is paid to the analysis of the production and on its pedagogical evaluation.

Since in our country radio and television stations are private, we seek the voluntary cooperation of official and private institutions. In our effort to speed up national unity we must also take into account the very marked geographical, ethnical and linguistic differences that exist in Peru.

4. What are the principle difficulties met with in the development of tele-education? They seem to be twofold : lack of technical substructure and lack of financial resources. As a matter of fact, although we have 19 television stations, only one, at Lima, is attached to the Ministry of Education. It is true that the cultural and educational

activities of this station are remarkable, although it is technically underprivileged compared to the private commercial stations. This is the reason why we are attempting to associate private institutions with tele-education. The same holds for radio; only five or six stations broadcast educational programmes.

It will be possible to solve financial problems when the educational and legislative authorities as well as industrial circles become aware of the achievements and results obtained in this field throughout the world.

5. Future prospects are encouraging and three precise tasks are now before us:

a. The National Institute for Tele-Education will have to cooperate with the Ministry of Education in the training of teachers. A law organizing the whole system of education will shortly be promulgated. Thanks to the National Institute for Tele-education, this law provides for the integration into the Peruvian educational system of all audio-visual methods and in the first place radio and television.

b. We will organize the first national seminar for tele-education to be held at Puno in August 1967. This seminar will coordinate the work of the various centres; it initiates a dialogue between tele-education officers and the managers of commercial channels so as to obtain the cooperation of the latter for popular education projects and will present to the Peruvian authorities the conclusions of the present Conference.

c. In order to ensure high quality programmes, particularly with regard to radio-vision, we will have to set up one or two production centres at Lima and Arequipa.

I will end this report with VENEZUELA, the native country of Bolivar. In radio, I know that two educational programmes for adults exist, one of them produced by the Ministry of Education and the other one by a private institution.

With regard to television, the National Centre for Audio-visual Methods at Caracas, produces, several times a week, supplementary programmes at nursery school level and for the fourth and the sixth grades. I have had the opportunity to watch some of these programmes and I can assure you that they are very well made.

V. R. di Pasquale
Director of the Department of Audio-visual
Teaching — Minesterio de Educacion y Justicia
Argentina

Educational uses of radio and television in Chile and Argentina

I have been requested to present a report on the following South American countries : Chile, Uruguay, Paraguay and Argentina.

I will, however, restrict myself to the countries represented at this Conference : Chile and Argentina.

CHILE.

1° At present, educational radio in this country is not very developed and does not come under general educational planning. The Ministry of Education produces enrichment programmes, especially in the fields of literature and history which are broadcast by commercial stations. The State University of Valparaiso, the Technical University of Santiago, and some provinces are provided with stations which continuously transmit cultural and educational programmes.

2° Television is, by law, under the control of the Universities. There are three television channels : channel 9 of the State University; channel 13 of the Catholic University of Chile in Santiago; the channel of the Catholic University of Valparaiso. The latter two are privately owned.

By virtue of its academic character, television in Chile has a special nature. The Television Service must, simultaneously, be the tool of social communication, systematic education and raising of the cultural level, while also broadcasting a certain number of entertainment programmes. On principle, cultural and educational programmes are alternated with entertainment programmes so as to obtain the greatest impact and attain the largest possible educated audience. This system of programming has been in operation for the last three years. In 1967, the Northern University at Antofagasta launched experimental broadcasts.

We shall deal with the work done by Channel 13 of the Catholic University of Chile, in more detail, as the Chillan delegates to this Conference belong to this institution.

The following has been done :

1. *Systematic education :*

a. A science course for 8th grade, at a weekly rate of 20 minutes. The subject matter forms part of the official syllabus. This series is produced in cooperation with the Federation of Private Schools which evaluates results. The experiment is conducted in 16 schools.

b. English courses, of intermediate level, which are produced in cooperation with the British Institute and broadcast at a rate of 20 minutes per week.

c. The programmes aiming at community development comprise 2 series of broadcasts :

1° Rural education; weekly 30 minute broadcasts produced in cooperation with the Foundation for Rural Life. They are intended for women in the rural areas of the province of Santiago.

2° Education of the population of shanty towns; weekly 30 minute broadcasts intended for women living in districts surrounding Santiago and followed up by surveys. The topics are mainly of a civic nature.

These 2 series of broadcasts are organized in the same way. The pupils are assembled in tele-clubs under the supervision of monitors. Results are evaluated mainly through surveys, tests, talks with pupils, and practical work. The change of attitude noted in users is extremely satisfactory. There are now 29 tele-clubs which initially assembled at least 50 people; the average attendance amounts to approximately 50 % of the people originally enrolled.

2. In the field of lifelong education, there are cultural broadcasts aimed at the general public. *Our world* is a series for the popularization of science and the social sciences. *Panorama of professions* is produced in cooperation with professional associations; *Community on the march* attempts to promote cooperation; *Young world* is aimed at youth associations; in *The young are speaking*, adolescents of secondary school level are interviewed on problems that are of particular interest to them. Looking at statistics, we find that 39 % of total broadcasts are for entertainment purposes, as against 61 % of cultural broadcasts. Thus, television at the Catholic University of Chile really plays its part in educational television by being primarily concerned with the cultural aspirations of the Community.

I would like to stress the exceptional, and I think, very satisfactory situation of Chilean television, linked as it is to the universities.

ARGENTINA.

In Argentina, the Department of Audio-visual Teaching, which depends on the Ministry of Education, groups all audio-visual media for educational purposes : radio, film, television, records, slides, tape-recordings...

This Department comprises 3 sections, *i. e.* :

— a pedagogical section;
— a technical section;
— an administrative section.

Each section has a specialized staff.

In each province, of course, there are other services attached to the various educational levels, which do not depend on the central administration.

1° *Radio : Radio Escuela Argentina* is a series of broadcasts prepared since 1950, by the Department of Audio-visual Teaching.

After a number of transformations operated in accordance with educational needs, it has now become an enrichment programme. The National Radio broadcasts a daily programme of 10 minutes' duration aimed at secondary schools. It deals with the following subjects; Spanish Literature, Ibero-American Literature (particularly Argentinian Literature), Music and History.

All programmes are preserved on tape, so that teachers may reproduce and use them at will.

Certain programmes are not produced by our Department. *The school for parents* is a series produced by the Centre for Educational Radio and Television of the province of Buenos Aires. As its name indicates, it is aimed at parents and endeavours to assist them with courses on psychology, parent-children relationships, problems of hygiene, and civic instruction. The production team is composed of teaching specialists and of technicians assisted by a group of advisers with scientific training.

All the programmes of the National Radio are designed in a broadly educational spirit : classical and modern music, always with an appropriate commentary prepared by specialists; literature and drama programmes covering all periods of world literature; interviews with prominent scientists and writers. To be brief, I will just indicate here that there are numerous local initiatives in the field of radio in the various provinces.

2° *Television* has been used for educational purposes since 1952. The Department of Audio-visual Teaching has organized a refresher course that will be broadcast as from April next. Its subject is the production and use of various audio-visual techniques for the greater profit of teachers. In other words, we are teaching the use of audio-visual media while employing those media.

The *Tele-Escuela tecnica* which depends on the Council of Technical Education and which has been in existence for 4 years, produces programmes for home reception by adults. The subjects taught vary from automobile engineering to dressmaking and foreign languages. This series is intended for two kinds of audiences :

— captive audiences;

— non-captive audiences.

The captive audiences are composed of people enrolled at the beginning of the school year, who receive the accompanying material and who take an examination set by the National Council of Technical Education. Dependent on the Council for Primary Education, the *Tele-Escuela primaria* has for two years been producing enrichment programmes on subjects such as biology, drawing, ceramics.

Finally, we must mention a ministerial decision creating a National Educational Television Service. This project, already well under way, provides for coordination of existing institutions with those which will be created in accordance with the General Educational Plan.

The Department of Audio-visual Education thus fulfils a twofold task :

— it produces programmes aimed at the sectors of teaching which come under the Ministry of Education;

— it coordinates the activities of the different working groups deriving from parallel institutions.

At present in fact, primary and technical education do not directly depend on the Ministry of Education.

This is why we shall take on the coordination of these groups which will remain autonomous.

Finally, I would like to state that it is the intention of our plan for the National Educational Television Service to harmonize the educational activities of radio and television, while leaving a certain independence to the sections dealing with the various educational levels. For this, we are counting on the action of a Coordination Committee composed of the directors of the various sections.

It is our aim to go beyond the strictly educational level and to strive towards the development of the country as a whole.

In our country, illiteracy is not a serious problem, and the instructional level of our agricultural and industrial labour force is relatively high. Therefore, our efforts in the audio-visual educational field are mainly directed at the renewal and enrichment of present teaching methods.

CHAPTER 4

Plenary Sessions

Presentation of the work of the Seminar

Final Report of Commission 1

Friday, March 17th, 1967

Final report presented by Messrs. **RICHMOND POSTGATE**

Controller, Educational Broadcasting —
British Broadcasting Corporation

IGNACY WANIEWICZ

Chief Programme Editor, Head of Educational Television — Polskie Radio i Telewizja

Pedagogy and Production

Introduction.

Commission I was attended by a large number of delegates and observers ranging from 80 to 120 or more. It was thus almost a conference on its own, rather than a large committee as had been envisaged. This fact conditioned its manner of working and made less possible the full participation of members and often truncated promising discussions. Nevertheless, the main areas set for the Commission by the Conference were traversed. These were :

a. To study and record the main features of educational radio and television setting them in the context of the educational situation to which they contribute, and to identify opportunities for their successful employment;

b. To study the main production techniques now available to achieve the educational broadcasting tasks accepted;

c. To examine and evaluate current practice in the selection, training and operational organization of those who control, plan, create and use educational programmes (other than technical staff).

I,1 Teaching Situations and Methods

1. The starting point of the work of the Commission was the examination of situations into which educational programmes may be projected :

a. Those of educational level, *e. g.* :
- — school,
- — university,
- — various levels of adult education;

b. Those of audience situation, *e. g.*:
- — isolated reception,
- — group reception under the leadership of monitors or group-leaders,
- — class reception integrated into regular educational systems, usually under the guidance of qualified teachers;

c. Those of pedagogic approach, *e. g.* :
- — authoritative,
- — « activity »,
- — self-tutoring.

Most of these factors are pre-existent to the programmes and are outside the control of the broadcaster who must seek to be in continuous and sensitive adjustment to them.

2. These situations may, however, themselves be modified by the broadcast. Indeed to modify them may well be one important motive for using broadcasts : as, for example, broadcasts that seek to lead teachers to abandon an authoritarian for an « activity » approach; broadcasts directed at a group led by a monitor which seek to improve the skill of the monitor at the same time as conveying material to the members.

The Commission endeavoured to identify the areas of great educational need and to select within these areas topics for special examination. The areas were :

— the need to improve the quality of education,

— the need to promote social and economic development,

— the need of societies to adapt to constant change,

— the need to provide for those suffering from some personal or environmental deficiency.

The topics selected were the following :

1. The re-training of teachers in service,
2. Agricultural education,
3. Social education,
4. Literacy teaching,
5. The teaching of mathematics to children of school age,
6. The teaching of foreign languages to beginners,
7. Higher education for those unable to attend institutions of higher education,
8. The teaching of handicapped children.

The work of the Commission was based on 144 reports submitted by 46 broadcasting and educational organizations from all continents, and on comparative analysis carried out by subject-experts. On the basis of these reports and studies as well as of over fifty oral contributions by participants, the Commission arrived at the following conclusions.

I. The training of teachers in service.

1. The typical, perhaps universal, educational situation may be summarized as follows :

- — more people today have to be taught than ever before;
- — each individual has to be taught more than was ever before required;
- — the content of most main subjects is rapidly changing and will continue to change;
- — the methods of teaching need constant improvement and modernization;
- — new aids are becoming available to teachers, of which some profoundly affect the roles of teacher and taught;
- — the need for extension and improvement of teaching cannot be met by the traditional means of teacher training only;
- — if there is any agency that can help improve the serving teaching force, this agency should be exploited;
- — educational broadcasting is such an agency if used in the right way.

2. Having examined accounts of successful broadcasting activities in this area, the Commission considers that :

a. Educational broadcasting organizations should, on the one hand, make a careful study of their resources, and on the other, of the need to re-train serving teachers, and consider seriously whether some of their resources should not be used for the improvement in the quality of its teaching force.

It should not be assumed that broadcasting to teachers brings less benefit to the educational system as a whole than broadcasting to pupils, merely because the audience for the former is smaller.

b. In order to facilitate the reception and utilization of such programmes as well as to increase their effectiveness, it is advisable to organize group-reception in schools or in local centres of teacher-training followed by discussion, or — in cases where teacher audiences are dispersed — to organize periodical meetings of teachers in the form of seminars or consultative groups to follow up the material presented by the broadcasts.

c. Experience shows that the effect of these broadcasts is greater when the programmes are broadcast in systematic and clearly defined series. It is obvious that the series should be connected with the syllabus of the appropriate educational systems. Since effectiveness, always depends upon kindling the enthusiasm of the users, it was considered that series intended to change the habits of teachers had the best chance of success if they coincide with a current tendency in educational opinion and if they adopt an encouraging rather than an authoritative attitude. In order to create interest in new developments, it would be advisable that the programmes should not always keep meticulously within existing practice.

d. Almost invariably, programmes in this field need written support.

e. The universal national and international desire to improve teaching suggests that the exchange of experience between countries is valuable.

It should however be strongly emphasized that particularly in this field, the model and type of the programmes *must be adjusted to the specific needs,* material resources and organization existing in the particular country. No outside experience should be mechanically copied without taking into account local conditions.

II. Agricultural education.

1. In many countries, even in the more developed ones, the rural section of the community appears to suffer by comparison with the town area and feels a sense of abandonment. In many countries, it is important to slow down the drift of population to the towns by raising the status and efficiency of agriculture.

At the same time, the rising population reinforces the need for a substantial increase in agricultural efficiency. Thus, the efficient organization and management of agriculture is important both for the economic prosperity of the country and for its healthy social development.

2. Having examined a number of successful projects, the Commission considers that :

a. Television and radio have a significant part to play in introducing new ideas and more efficient methods into agriculture;

b. There is evidence that agricultural broadcasting is particularly in demand in developing and predominantly agricultural countries; there is however also a very important task to be achieved in industrialized countries;

c. The social effect of broadcasting in this field is important in its own right;

d. There is evidence that the effectiveness of the broadcasts is enhanced, particularly for adults, when they are gathered together in groups to watch or listen;

e. The value of the educational message is enhanced if the group is guided by a local tutor or supervisor who is acquainted previously with the programme intention.

III. Social education.

1. The universal situation is that of change. The life of children is different from that of their parents. Change affects every community in the world, though to a greater or less degree, at a greater or less pace. It may affect all the population or only a part, but it lies ahead of us all.

Change may break down established modes of life or rules of conduct. It may do this rapidly, violently or gradually. But change is the constant key-note of the century.

2. Since broadcasting is centrally produced with privileged access to every point of growth, and is disseminated universally, it is ideally suited to reflect change and communicate and explain it :

change in ideas and thought; change in the relationship between individuals, groups and classes; change in the physical circumstances of living, in the appearence of villages and towns, in communications, in art; change in the opportunities for young people about to leave full-time education.

3. The Commission studied a great variety of examples of educational broadcasting falling, among others, into the following groups :

a. programmes encouraging adults to adapt their habits to changes in the life and thought of their community;

b. programmes widening horizons of thought, popularizing knowledge on various scientific, technical and aesthetic subjects as well as on history, law, etc. stimulating further education;

c. programmes on careers both for parents and school-leavers;

d. programmes stimulating school children's interest in social problems;

e. programmes on health, hygiene, nutrition, civic education, particularly in developing countries;

f. different types of broadcasting for women;

g. programmes of high level on philosophy, science, art designed for audiences with a considerable educational background;

h. programmes for children on ethics designed for school or home viewing, particularly those which use techniques of dramatization.

4. The Commission's main conclusions about effective broadcasting in these areas are that :

a. collective reception under guidance by group-leaders, particularly in developing countries and areas of lesser cultural activities, brings not only better educational results, but may also lead to group action to improve the local conditions of life; the results achieved by rural radio forums, teleclubs and women's classes in many countries are extremely encouraging;

b. teaching methods and production techniques should be carefully chosen to suit the given subject, type of audience, local traditions and customs; it appears that in many cases, particularly when an audience unfamiliar with organized education is concerned, the authoritative approach is not advisable;

c. the stimulating and motivation role of broadcasting in this field is thought to be very great, even when no direct results are visible, provided that the broadcasts are based upon thorough consideration of the needs and available resources;

d. as in the majority of cases the audience is outside the reach of conventional educational provision and unaccustomed to the division of learning into curricular subjects, sociological, psychological and pedagogical research to define the needs and guide the broadcasters is urgently needed.

IV. Literacy teaching.

1. Illiteracy is a scourge in most countries of the world. Its eradication is a necessary condition of national, social and economic progress. Despite action undertaken in this field, the number of illiterates is constantly growing because of the population explosion.

2. The fight against illiteracy is harder because, in countries where illiteracy is high, there is always a shortage of teachers, monitors and literate group-leaders.

3. In this situation, any agency which can multiply the work of qualified teachers should be mobilized and put into action. No doubt therefore that broadcasting with its vast audio-visual capacity, with its ability to reach wide audiences should be called upon as an important instrument in this battle.

4. The Commission has taken note of a number of interesting projects carried out by broadcasting organizations in co-operation with educational authorities in this field. Among the conclusions reached by the Commission, the following should be mentioned :

a. Although radio may not be suitable to teach literacy directly, it has important tasks in this field. It should be extensively used to mobilize public opinion in favour of eradicating illiteracy; to attract voluntary workers to the field and to motivate and stimulate the illiterate population to learn.

b. Television has substantial possibilities in the direct teaching of literacy. These should be fully used wherever possible. The role of television in the literacy campaign can be twofold : first, as a support to literacy teaching carried out by conventional means and secondly as the main instrument of the campaign, supported by a network of groups led by monitors or field-workers. In both cases, there is need for accompanying written material for students and tutors.

c. Broadcasting may usefully adopt the « functional literacy » conception, that is to say, to broadcast to the whole man in his social and working environment and not only teach him to read and write.

d. The use of mass media is not necessarily in conflict with the current policy of the « selective approach » now widely recommended. On the contrary, broadcasting of literacy courses may assist in the discovery and selection of audiences that would otherwise be unreachable.

e. Particular attention should be given to the discovery of teaching methods suitable to the perception of adult learners. Experience shows that the approaches conventionally used in schools for teaching children the art of reading, writing and arithmetic, are not suitable to adult learners.

f. The Commission considers that although many different broadcasting projects to combat illiteracy have been undertaken with considerable success, further experimentation is needed to discover and elaborate the most appropriate production techniques applicable to differing levels of resources. The Commission considers that there is still plenty to do in order to find ways of using broadcasts to the full effect. Particular efforts to explore and exploit the possibilities of radio should be made, as radio appears to be the cheapest medium and reaches the widest audiences in developing countries.

V. The teaching of mathematics to children of school age.

1. The general situation in this field can be described as follows :

a. Mathematics is a subject universally required. It is the essential skill for everyday life; it is the groundwork for technological advance; it can be the foundation of intellectual life. It is a subject in rapid evolution, as to content and learning methods, penetrating nowadays constantly into new fields of application.

b. Every school must teach mathematics. Every school will have to teach mathematics in a new way in the forthcoming years. On the other hand, there is a chronic shortage of qualified teachers of mathematics; even the qualifications of teachers qualified more than five years ago are already obsolete.

2. After examining reports concerning more than 20 series of programmes dealing with mathematics, the Commission wishes to draw conclusions as follows :

a. There is good ground for believing that radio and particularly television can give important support to the teaching of mathematics;

b. Broadcasting organizations should, therefore, in the fullest consultation with the educational authorities, give particular attention to the support of mathematical teaching by broadcasting;

c. Innovatory approaches can be introduced only if they coincide with trends of educational practice already present;

d. Mathematics can be taught effectively by broadcasting if teachers, with at least a certain acquaintance with the subject, supervise the reception in the classroom and if the broadcast course is accompanied by adequate teachers' notes;

e. The field of mathematics is one in which the experience of one country both in teaching methods and production techniques can be fairly easily adapted to suit the needs of another. This conclusion is the more significant because the finding of appropriate pedagogic approaches constitutes one of the major difficulties encountered by many broadcasting organizations.

VI. The teaching of foreign languages to beginners.

1. The general situation in this field is obvious : all who claim to be educated must learn a foreign language. In multilingual states, this may often be the second or third language learned by natives. In some countries, it is the foreign language which provides the basis for nation building and national integration. There is a strong and almost universal trend towards the study of a foreign language especially of those which are considered international languages. This trend will no doubt continue.

2. The Commission took as universally agreed that radio and television could help in this. Based on the study of 30 papers submitted on this subject, the following conclusions were drawn :

a. The pedagogic effectiveness of broadcasts is in this field of a comparatively high standard, provided they are accompanied by written material. Research-based studies are, however, much needed.

b. Radio and television courses reflecting modern methods in language teaching can exert considerable influence upon the general improvement of language teaching.

c. By close co-operation between educational authorities and broadcasting organizations, it is possible to teach a foreign language in a school system even when not enough teachers qualified to teach that language are available, provided that the teacher in charge of this class is a good general teacher and that he is willing to co-operate with broadcasting and well briefed as to how to use it.

An important development is the increasing interest in using radio and television in combination : in multi-media courses, i. e. the combination of broadcasting with records, correspondence, etc. It should, however, be realized that a considerable increase in production costs is involved.

d. It is important not to treat the learning of a language merely as a matter of the language itself. The study should include the culture and way of living of the country. This will forward the linguistic study and promote better international understanding.

e. The Commission took note of an interesting project of teaching a foreign language to children of pre-school age by radio and television.

VII. Higher education broadcasts for isolated or individual students working for degrees or equivalent qualifications.

1. The general educational situation arises from the increasing number of students in many countries who seek higher education but are not able to do so through traditional channels. This condition may be caused by an insufficient number of places in institutions of higher learning, by the potential student's need to be employed full-time, by geographic isolation and distance from a college, or by financial problems in those countries in which tuition fees are a problem.

2. In a majority of the countries reporting, college-level or higher technical instruction seems to have been satisfactorily accomplished by a combination of correspondence courses and radio, or by television with or without correspondence work.

3. In many countries, « over-spill » to non-enrolled, non-registered, non-credit viewers runs to anywhere from four to ten times the number of registered, credit-seeking students.

4. Ancillary support, in addition to correspondence, includes guides, texts especially written for the broadcast lessons, visits to special centres for consultation, telephone consultations with the tutor at fixed times, and (most recently and only experimentally) the use of Programmed Learning Devices. Most, if not all of these forms of support, were reported by each of the six countries which reported.

5. The resistance of the academic community, where such exists, seems to be gradually overcome by continued experience of these broadcasts, particularly when television (extra-mural) students take the same examinations as the intra-mural students and do as well or better.

6. Technical subjects are more in demand in most parts of the world than are the humanities, but in some countries, in which the higher-education-by-television system has been in force for some years, the cultural subjects are equally popular or run a close second.

7. Half (three out of six) of the nations which reported, emphasized the need for the « College of the Air » to step down to the secondary level, to assist in the preparation of students for admission to matriculation.

8. In at least one case, the introduction of television as ancillary to correspondence course work has caused criticism and ultimately revision of both curricula and textbooks.

9. The traditional lecture format is being steadily enriched by the introduction of increased visualization, interviews, and group discussion, and, experimentally, programmed methods and materials. Televised lectures using fully the visual resources now available are encouraging many conventional universities to adopt audio-visual techniques for lectures to intra-mural students.

10. The Commission noted with interest a project to instal additional special laboratory facilities in secondary schools for the use of extra-mural students of university-level courses who live too far from a university to do this work on the campus.

VIII. Teaching of handicapped children.

1. Children and young adults handicapped or retarded in some way constitute a relatively small audience for educational broadcasting. All countries, however, face heavy responsibilities for the education of the physically handicapped, the educationally subnormal, the socially maladjusted, or simply the slow learners. When account is taken of those, whether teachers or relations, who are concerned with the welfare of the handicapped or retarded, it is felt that their claim to special provision is strong.

2. Examining reports on broadcasting activities in this field, the Commission concludes that :

a. The Conference should take note of the important work now being done by the new media as remedial agents and recommend it as a useful field for study in greater depth by the next Conference. Such research data as is available from experimental projects is most promising.

b. Programmes for those in charge of the handicapped and their parents constitute an important social service.

I,2 Programmes and Production

In this theme, the Commission examined some of the major production techniques used in educational broadcasting in relation to particular educational broadcasting tasks. The sessions dealt with the following topics :

a. The use of fixed image stills and of word captions in television and radiovision;
b. The role of special effects and animation;
c. The role and the manufacture of film material;
d. The role of dramatization in television and radio;
e. Techniques of reporting on events and situations by radio and television;
f. The use of a small television studio;
g. The role of accompanying materials to radio and television broadcasts;
h. Recent scientific developments in educational broadcasting.

As a preparation for these sessions, the Commission considered and accepted a general statement about educational broadcasting which it considers may be worth putting on record in full.

1. Successful educational broadcasting is the product of collaboration between educators, broadcasters, producers and staff with technical and artistic skills. Occasionally, these skills may be found in a single person; sometimes, within a single organization; more often, in several. The right way of combining these skills differs according to the circumstances and has to be studied afresh by each organization.

2. Educational programmes must be planned well ahead of transmission and it is better that they should be prepared ahead also. The planning involves :

— a right relationship between the programmes and the educational intention;
— time-tabling appropriate to class or home use;
— right decisions about the role and nature of the support literature and similar material;
— personal links between broadcasters and those who use the programmes.

3. Unless the broadcast service is in a relationship of close partnership with the educational system, much effort and expense may be wasted. But to ensure that listeners, viewers and their teachers, monitors or group leaders fully understand the purposes and plan of the programmes and literature a great deal of effort and expense is needed even when the basic relationship between the collaborating partners is sound.

4. The entire production team must fully understand and accept the educational purposes of the programmes; otherwise the purposes of the programmes will not be achieved or achieved only in part.

5. The producers and directors of the programmes, writers and editors of the support material must be aware of and sensitive to their particular audience — its composition, its socio-educational situation and its capacities and limitations.

6. The audience must participate actively whether by attention and intellectual and imaginative appreciation or in more obvious ways during or after the transmission. These ways may include :

a. writing answers during the course of a broadcast;
b. repeating the words and sentences of a language programme;
c. participation in a correspondence course or in an answering service with a tutor;
d. participation in local group-study or discussion after the broadcast;
e. actually handling models or experiments during the course of the broadcast.

7. Means must be agreed on for ascertaining how effective are the programmes and support material. To this end :

a. trial programmes and evaluation beforehand are most desirable,
b. comment from users during the run of the series is essential and must be heeded immediately;
c. considered judgement at the end based on all available evidence is essential, not only to judge the success of the programmes in meeting the educational task, but also whether the task itself was realistically framed.

8. Use must be made of any available fundamental educational research whether or not it relates immediately to broadcasting.

9. Among the many elements in making educational programmes to which attention must be given the five following require special care, each being related to the particular audience :

a. the problems of « loading and pace ». This involves decisions about the actual number of ideas included in a programme and consideration of the actual rate of delivery of ideas;

b. the nature of the learning process. The producers and directors associated with the programme need to be aware that there is a good deal known about the way people learn and that children and adults have different learning patterns. This knowledge is important in studying the planning of the elements of the programme and in considering the question of audience involvement ;

c. the vocabulary and language. A knowledge about the particular vocabulary and language of each defined educational audience is essential;

d. the type of audience-involvement appropriate to the educational situation. This needs special care and planning. It can be achieved in a variety of methods — sometimes with gaps in the radio and television programme, with answering sessions and sometimes in more subtle ways;

e. the type of composition of the visual components both in the programme if television or radio vision and of the support material. It leads to consideration of the very nature of communication, the question of redundancy, irrelevance, etc. This is important not only for television but for booklets.

OBSERVATIONS MADE BY THE COMMISSION

1. The discussions on reporting or « reportage » underlined the importance of the rapidly increasing availability of the transistor radio. There is a need to find effective techniques of reporting events and situations since for many audiences this reporting is their only contact with the outside world. Reporting for educational purposes is difficult to do well. Good reporting gets to the core of the situation and should be a starting point and not a conclusion for the audience.

2. It was noted that the wider use of the audio tape-recorder was now giving far greater flexibility in the use of radio broadcasts. Not only does it provide the opportunity to use the programme at a convenient time, it also gives the chance to use the programmes several times over (unless there are some local regulations which prohibit recordings).

3. The increasing use of the audiotape-recorder will provide an important stimulus to the wide development of radio vision.

4. It was noted that radio vision with well-chosen photographs could be used without a « mains » electrical supply and that it was, therefore, a more practical proposition than television for many areas.

5. The ability of radio vision to achieve effective educational work was emphazised and illustrated by programmes in farming, health, and social education.

6. Programmed learning techniques might with advantage be applied in the scripts and in the actual choice of the pictures for radio vision. The method could then provide an effective tool for the actual teaching and training of skills.

7. The availability of superb illustrations in some of the radio vision programmes was noted, and re-inforced the desirability of achieving some effective method for the exchange of illustrations which should be free of copyright problems if possible. It was felt that the exchange of scripts or tapes of radio vision programmes was likely to be useful only for informational purposes.

8. The Commission, in studying the use of film in television programmes, noted some lack of clarity in the purposes for which film was used. It also noted that there was a strong demand from delegates for more technical information about the use of film and about special effects or techniques that can be used.

9. It was noted that the educational possibilities of stills and animations can easily be underestimated and that these can often be obtained or constructed by economical methods.

10. While it was agreed that dramatization in radio and television is practical and effective it was felt that it should be judiciously employed. Some confusion may arise if the audience is not acquainted with the technique and its purposes.

11. The Commission, in studying the role of publications and documents to accompany broadcasts, detected some significant changes in this role in the last two years and thought it likely that these changes would continue to develop and be encouraged.

a. It was noted that the purpose and function of booklets appeared to be altering, teachers' notes are becoming more direct and specific.

b. Notes for the teacher and student are giving many more definit examples of how to follow up or integrate the broadcasts.

c. Booklets with spaces for answers and student involvement are increasing in quantity. The introduction of programmed learning techniques was noted.

d. Some countries are introducing practical kits of equipment to accompany broadcasts, particularly in the science field.

e. The experimental introduction of 8 m m. loop films and cassettes as part of accompanying « documents » is an interesting development in the integration of broadcasts in a wider educational pattern.

12. The Commission thought significant the trend towards booklets (whether for teachers or students), gramophone records, correspondence courses, equipment kits, etc., being regarded as an essential and integral part of educational broadcasting and not being looked upon as desirable but extra. It noted :

a. that good publications can add considerably to the time period necessary for planning a series;

b. that publications and publication procedure can take an appreciable proportion (up to 30 %) of the educational broadcasting budget;

c. that there are still many examples of publication material arriving too late to be effective.

13. The Commission observed experiments in which programmed learning methods were applied to the actual material included in television broadcasts and thought that information about these programmes and their effectiveness should be made more widely available.

14. The introduction of new technological equipment was noted. This applied both to the receiving end (the portable video tape recorder) and the production end (the compact studio equipment). The Commission observed that the tradition of broadcast entertainment in some countries had led to a certain style of production and that this was not necessarily appropriate to educational programmes. On the other hand, modest economical equipment at the production end was only of value if it were adequately backed by able staff and support services, able to provide quality illustrations, graphics and camera work.

I,3 Professional characteristics of specialized personnel

1. Theme 3 dealt with the human beings who make and use educational broadcasting — with their nature and properties, the division and combination of their functions and the pattern of their association for this purpose, and their training to perform them. The Commission looked at current practice in developing and industrialized countries, the separate problems of radio and television, and the influence upon the solutions adopted of such powerful, conditioning factors as the nature, organization and tradition of the national educational system itself, and the form and weight of the broadcasting system and the natural relationship of these two systems.

2. Samples of the solutions adopted by a number of contrasting typical organizations were studied. Time did not allow for the strengths and weaknesses of these systems to be probed and evaluated. Descriptions are attached as Appendix A to this report.

3. The Commission's main conclusions from this study are these :
a. that the elements that distinguish educational from general broadcasting and are essential to its success derive from a number of qualities to be sought amongst those who make the broadcasts; and that these can be listed and, by and large, hold good for radio and television and for systems in varying stages of development and associated with differing systems of control. A tentative list of these qualities with which the Commission expressed a good deal of agreement appears as Appendix B;

b. that these personal elements are usually to be sought principally in the key figures of the producer, director, producer/director, and presenter; but also, in larger and more articulated organizations, in a considerable circle of other collaborators such as writers of scripts, writers of accompanying material, editors; that the number of such people varies greatly from organization to organization, and from radio to television;

c. that, broadly speaking and whith many qualifications, two main patterns of responsibility can be perceived — those in which the national educational system plays a dominant and sometimes a fully executive role in the operation, and those in which the relationship between the broadcasting and the educational components is one of professional partnership;

d. that, if educational broadcasting is to realize its full capacities to serve educational ends, more attention must be given to means of developing skills on the part of users, whether serving teachers, teachers-in-training, or group-leaders; that the enthusiasm and goodwill of the teaching force is essential; and that every possible way of associating the generality of teachers with the making and evaluation of broadcasts should be taken with a view to increasing their sense of involvement and participation. Among these means are meetings, consultations, correspondence, personal contacts of all kinds between the parties as well as the more formal courses and advisory visits of liaison officers, and the inclusion in the syllabus of the student-teacher of instruction in the use of broadcasting as part of his professional training;

e. that the training of the broadcasting staff is a matter of great urgency and one that causes the broadcasting organizations and/or educational authorities in many countries a great deal of difficulty.

4. The Commission received and endorses a proposal from Commission III to improve the exchange of information and guidance on staff training. No further details are given about this proposal here, as it is more fully treated in the report of Commission III.

5. The Commission expressed also great interest in the staff training plans of U.N.E.S.C.O. and other organizations, welcomed the intention of U.N.E.S.C.O. to prepare in collaboration with the E.B.U. a staff training manual, and members expressed their willingness to support these plans in their own countries (i.e. by making available the material necessary).

Appendixes
to the Final Report of Commission I

APPENDIX A	Description of educational radio and television organizations	
	1. Institut pédagogique national (France)	H. DIEUZEIDE
	2. Instructional Television Trust (Israel)	A. SHUVAL
	3. Ministry of Education (Kenya)	P. KING
	4. Nigerian Broadcasting Corporation (Nigeria)	E. LEYIMU
APPENDIX B	Main professional characteristics	
APPENDIX C	1. The producer-presenter relationship 2. How the necessary qualifications can be combined in the production team.	

Henri Dieuzeide
Head of School Broadcasting
Institut pédagogique national, France

— Appendix A —

School Broadcasting in France

French School Broadcasting endeavours to place under a single authority (the Institut pédagogique national, the research and production centre for educational methods) all educators, researchers and technicians associated with the preparation, production and making of school radio and television broadcasts. It is not responsible for transmission as this is reserved exclusively to the O.R.T.F.

However, the Ministry of Education bears the cost of transmission, in accordance with the principle that the broadcasting tax finances information, entertainment and culture, while income tax finances education. (Educational institutions are exonerated from the broadcasting tax.)

The Institut pédagogique national groups educational committees responsible for establishing programmes by level and subject, while working-parties forming part of the School Broadcasting Department are responsible for preparing and following up programmes.

The basic difficulty is not to collect suggestions and policies to do with teaching. These always outnumber actual productions by a thousand to one. The important thing is to plan these educational policies and to make sure they are correctly applied.

This is why the responsibilities of programming, educational scripting, technical production and educational application (equipment in schools, staff training, accompanying literature, checking surveys) are all grouped in the same department.

An original feature of French School Broadcasting is to have called on teachers themselves to perform, with the help of the necessary administrative and technical staff, the various tasks which make for a better use of the audio-visual message.

The basic idea was to draw upon the immense reservoir of talent of the teaching profession (more than 500,000 strong in France) and to select the people likely to benefit from the training required for these new assignments.

To this end a selection system comprising five levels has been developed :

1° The institution of a « bank » of teachers willing and able to be associated with school broadcasting (about 900 at present). These potential collaborators are recruited during training-courses for producers in schools equipped with closed-circuit television.

2° Employment, through production or research contracts, of teachers in service from the above-mentioned group (at present 300 teachers are doing extra work, in production or research, for school broadcasting on a contractual basis).

3° Formation of a body of « editor-teachers » seconded for half of the time to the School Broadcasting Department. Thus, while remaining in contact with teaching for half of the time, they fulfil the tasks, in school broadcasting, of « Educational Editor of the Series », and are responsible for the policy of a series of broadcasts at a given level (varying from 30 to 90 broadcasts). They are also responsible for the educational unity of the series on each of which 3 to 6 teachers are employed on a contractual basis : at present there are 52 of these editor-teachers for 1, 000 television and 2, 000 radio broadcasts.

4° The coordinators are teachers seconded full-time to the School Broadcasting Department, usually for five years. They coordinate the work of the editor-teachers for a given level (*e.g.* adults) or for a given subject (*e.g.* modern languages, science). It is their job to harmonize and balance the series and also to check and evaluate the results obtained. At present there are 27 coordinators.

5° At the highest level, the programme directors (15 in all) decide educational policy, the distribution of technical material and see that schedules are respected.

With regard to the preparation and production of broadcasts, the main concern of the School Broadcasting Department has been to avoid discrepancies between the educational intentions and the actual production of the message. In radio, it became clear that there was little technical interference between the project (script) and the recording of the broadcast. In television, however, the dilution of educational intentions and the distortions due to the participation of various types of technicians had to be analysed to be reduced. This is why, while most radio broadcasts (with the exception of reportages) are still produced by the O.R.T.F., television broadcasts are recorded in an independent, specialized production centre placed directly under the authority of the School Broadcasting Department.

An analysis of the tasks which lead to the finished product, ready to be transmitted by the O.R.T.F., enables us to distinguish three series of operations :

— programming,
— technical preparation,
— production.

1° *Programming* takes into account the decisions of the programme committees, decides on final content, the choice of writers, and fixes transmission schedules. It leads to a programme of broadcasts which lays down the specific educational content and audio-visual treatment of each broadcast.

2° *Technical preparation* is a newly-conceived stage which allows the producer to participate very early on in the preparation process (about 14 to 15 weeks before transmission). A dialogue on equal terms is thus possible between the teacher-expert on education and the technician-expert on communication. The approach and form of programmes are decided here and technical means are allocated according to educational needs. This stage is directed by educators well-versed in communication and thus ensures that teaching takes precedence over technique. It leads to a *studio script* for each broadcast.

3° *Production* : the independent centre enables broadcasts to be recorded according to the specific, technical needs of an educational production (film documents, graphic supports, animation, direct shots, editing and recording). This work is organized under the authority of the directors and in accordance with the time-tables of the teachers assigned to these tasks.

It should be noted that the educational application is linked to production so as to enable the effects of the broadcasts to be evaluated and thus supply the educational committees, the working-parties and the other responsible services with scientific data.

Also to be noted are the developments this year of experimental workshops which enable research applied to production to be made, particularly in the fields of the validation of sequences and the introduction of programmed learning into the audio-visual message.

Arié Shuval
Director of Education, Instructional Television Trust, Israel

Organization of programme production in Israel

Educational television, as a pilot project, was introduced in Israel exactly a year ago by the I.T.T. — Instructional Television Trust.

The I.T.T. is the organization responsible for all aspects concerning production. (The educational part is represented in Israel by the Ministry of Education and Culture.) It has set up for that purpose a special committee in which are represented the most important departments of the Ministry (primary education, secondary education, vocational and agricultural education). The Television Committee is the one responsible for the selection of subjects to be taught through television and to decide upon the grades that should partake in this pilot project. After these decisions have been taken (three subject-matters in two grades), three subject committees appointed by the Ministry of Education start outlining in detail the syllabus of each subject together. Every subject committee is represented by a primary school teacher, secondary school teacher and a secondary teacher's guide writer. In its deliberation participate also the anchorman, producer-director and studio teacher. The subject committee is the one responsible for the selection of key-lessons in each subject to be produced and broadcast through television. Once the decision has been taken the studio teacher starts writing the scripts under the guidance of the anchorman and the television inspector.

After the script is approved by the television inspector, the production team starts working on it. Twenty-one days before video tape recording, the art department and the research worker join it. Two days before video tape recording, a dry run takes place where there is still the possibility for the television inspector to introduce changes or give his final approval.

Peter King
Head of School Broadcasting — Ministry of Education, Kenya

Organization of radio programme production in Kenya

There are two groups of people involved in radio programme production, on the one hand the Educators with their responsibilities for the syllabus and curriculum in use in the country's schools, and, on the other, the Broadcasters, with their professional ability and techniques or « know how ». There are also three significant periods — the planning period, the production period and the period of presentation — and during all these three periods both sides, the educators and the broadcasters must come together, and their joint resources and responsibilities must be used.

The initiative for items regarding programmes does not lie in only one group. The educators may feel that radio can help them, the broadcasters may wish to help the pupil or the teacher. But, after joint consultations and discussion, eventual approval of a programme is reached — the size of the committee may be large or small, but some such body must give approval for production to start.

The producer, the activator within the School Broadcasting Unit, now seeks not his script-writer who may come from the ranks of the educators (a serving specialist teacher, a member of the Institute of Education, the Curriculum Development and Research Centre, the University, the National Museum) or from the resources of professional script-writers. Guidance and help must be given to the script writer who also will probably be expected to do the initial basic work regarding any support materials.

The written programme is obtained and this is still a joint responsibility. Now the artists are employed to turn the written programme into the recorded programme under the complete responsibility of the producer. These artistes will be the best people available with varied talents and working in many occupations.

Now that the recorded programme has been made and the relevant support materials printed, the third and vital period of presentation occurs. During this period both sides must come together and see how the consumer uses, abuses or doesn't even use the product. By both sides taking an active part in evaluation, then, the improvement and amendment of the programme can come about. In many small organizations, like the Kenya one, the production of new programmes in new fields can only be undertaken with the knowledge that a series of programmes can be repeated, that the errors that have been made can be rectified and that a series can go on while the cycle of new production starts all over again.

Peter King
Head of School Broadcasting — Ministry of Education, Kenya

Organization of radio programme production in Kenya

There are two groups of people involved in radio programme production, on the one hand the Educators with their responsibilities for the syllabus and curriculum in use in the country's schools, and, on the other, the Broadcasters, with their professional ability and techniques or « know how ». There are also three significant periods — the planning period, the production period and the period of presentation — and during all these three periods both sides, the educators and the broadcasters must come together, and their joint resources and responsibilities must be used.

The initiative for items regarding programmes does not lie in only one group. The educators may feel that radio can help them, the broadcasters may wish to help the pupil or the teacher. But, after joint consultations and discussion, eventual approval of a programme is reached — the size of the committee may be large or small, but some such body must give approval for production to start.

The producer, the activator within the School Broadcasting Unit, now seeks not his script-writer who may come from the ranks of the educators (a serving specialist teacher, a member of the Institute of Education, the Curriculum Development and Research Centre, the University, the National Museum) or from the resources of professional script-writers. Guidance and help must be given to the script writer who also will probably be expected to do the initial basic work regarding any support materials.

The written programme is obtained and this is still a joint responsibility. Now the artists are employed to turn the written programme into the recorded programme under the complete responsibility of the producer. These artistes will be the best people available with varied talents and working in many occupations.

Now that the recorded programme has been made and the relevant support materials printed, the third and vital period of presentation occurs. During this period both sides must come together and see how the consumer uses, abuses or doesn't even use the product. By both sides taking an active part in evaluation, then, the improvement and amendment of the programme can come about. In many small organizations, like the Kenya one, the production of new programmes in new fields can only be undertaken with the knowledge that a series of programmes can be repeated, that the errors that have been made can be rectified and that a series can go on while the cycle of new production starts all over again.

Ernest Ola-Leyimu
Head of School Broadcasts — Nigerian Broadcasting Corporation, Nigeria

Organization of school broadcasting in Nigeria

In explaining the Nigerian situation it is important to note that two authorities are responsible for Radio and Television Broadcasting. The Ministries of Education in Lagos, and the Regional Ministries of Education in Kaduna, Enugu and Ibadan initiate and produce schools radio programmes while the Nigerian Broadcasting Corporation also initiates and produces programmes. The bulk of the radio programmes are transmitted over the national network of the N.B.C.

The Ministries of Education through the Regional Government stations produce television programmes for their regions.

Decisions as to the nature and content of programmes are taken by officers responsible for educational programmes and referred to Advisory Committees comprising teachers, university lecturers and specialists from the Ministries. The programmes approved are then referred to a joint meeting of the Ministries and the N.B.C. called the Planning Committee and each unit explains what it has to offer for the national programmes.

These are then allocated to script-writers drawn from radio stations, universities and the teaching profession. Usually there is a consultant — a specialist in the subject-matter who advises. The producer works in close collaboration with the scrip-writer for editing, he also looks for artists (presenters who are sometimes teachers, university students (from the school of drama) or the producer. He has at his disposal a studio with the technicians ready for recording.

Most of the programmes are transmitted and taken by all receiving schools.

The idea of evaluating the programmes started a little over two years ago when education liaison officer were appointed. They visit schools, familiarize themselves with syllabi and changes and advise producers. They report on reception in schools, criticism by teachers and other listeners, help teachers in listening schools, hold meetings and seminars on how to use schools programmes and meet inspectors in the Ministries of Education. Reports are regularly sent to the head of school broadcasting and referred to Ministries where it affects their programmes.

— Appendix B —

Main professional and personal characteristics needed among the team producing educational broadcasting

1. This list sets out a list of qualities and qualifications that should, the Commission considered, be present in the team as a whole. The precise way by which they may be provided will differ according to the medium, to the scale of the organization and to the nature of the educational system. Examples of possible combinations contributed by typical organizations are given in Appendix C.

a. A general education up to graduate level. This is almost essential for the producer. Without it, he may well find difficulty in handling academic collaborators and consultants.

b. Some specialist knowledge of the subject — or some of the subjects handled — for the same reason as *a.* But the producer need not always be a specialist in the subject he handles.

c. The expertise that comes from a professional training as a teacher and from classroom or other relevant teaching experience, in order to understand the characteristics, needs of the target audience and the courses while they are studying. Unless this expertise is present somewhere in the team, the broadcasts are unlikely to be satisfactorily adjusted, particularly in series closely linked to classroom practice.

d. Above-average knowledge of, and interest in, current educational methods. Broadcasts should reflect the best modern practice and should often seek, as a secondary objective, to modify the practice of teachers.

e. A skill and style in the use of language. Broadcasts are often taken as models in this matter.

f. For television, a cultivated sense of visual possibilities.

g. A high degree of skill in using the relevant medium. Radio and television are means of expression in their own right and each has its own requirements and artistry. The team must exhibit a high degree of skill in employing them for educational purposes, even in largely factual programmes.

h. Skill in co-operating with others. The members of the team, particularly the producer, must be able to co-operate satisfactorily with script-writers, presenters, technicians, artists and design staff and they with him. For this purpose a high degree of tact, flexibility, patience and friendliness is required, together with a flair (especially on the part of the producer) for seeing ways through difficulties and differences of opinion.

i. Organizing ability : the team, but particularly the producer, needs very competent organization if all the elements of a programme, prepared over many weeks, are to be brought to their climax at the moment of production.

j. Steadiness and moral courage : a producer must be capable of standing up to disappointment and frustation when material difficulties and personal drawbacks in his collaborators make the attainment of his aims hard to achieve. He must have a capacity of leadership and be capable of making decisions, of which a number may involve considerable moral courage, particularly in handling the eminent and highly-placed.

k. Common sense.

l. An awareness of his own limitations, so that he may remedy them from his team, if he can.

m. Where a presenter is used, either in radio or television, a very close relationship between the producer and the presenter is essential in order to diffuse a sense of security among the team. The presenter must achieve a person-to-person relationship with his audience, without a trace of condescension. He needs a real commitment to what he is to present and should convey a feeling of involvement in the aims and difficulties of his audience. Really good presenters are hard to find, and many people with experience in broadcasting think they must have some innate talent which experience can develop but rarely create. Others believe that this capacity can be developed by careful selection and training. A presenter should desirably have a good knowledge of the subject in which he is making; but there may be occasions in which this is not essential. The best course may be for him to write his material himself, or at least have the chance of making it his own. But these are matters for judgement in each case.

n. The composition of the team is a matter for a fresh decision in every instance to be arrived at with great care.

Justin Keating
Head of Agricultural Programmes,
Radio Telefis Eireann, Ireland

— Appendix C —

The producer-presenter relationship (Experiences in Ireland)

The object of this note is to set out very briefly a slightly different relationship between the producer and the script-writer presenter from that normally prevailing. I am not arguing for the superiority of one system over another. It is really a matter of circumstances. But, in the best conditions possible, in certains areas of adult education and farming, as well as in some school broadcasting, the situation evolved in response to two main difficulties.

The first is a continuing shortage of producers, and particularly those with special professional qualifications (teachers or agricultural specialists for example). In a period of rapid expansion, the desire to serve education outruns the resources available.

Secondly, in certain areas (in relation to schools I would think of the newer mathematics and biology) official school syllabi do not reflect recent changes.

And in farming (and concerning the sea, about which we are at present making a series of 8 adult education programmes), there is no set syllabus, and no formal body of expert knowledge.

What happens in effect is that we get a director who is newer, less experienced and with less authority than is perhaps ideal.

And with him the programme series is made by a person who is simultaneously script-writer and presenter and who, in relationship to visualization, preparation of models, graphics and film, carries a lot of weight on the basis of expert knowledge. It is, of course, essential to consult experts continuously, but very often this is on an informal and rather personal basis.

In the absence through lack of recruitment or lack of training of the producer who-is-a-teacher, or the producer who-is-an agricultural-scientist, it is possible to get satisfactory programmes with the production group I have described.

Difficulties of relationship between director and writer-presenter can easily arise. On the other hand, there exists a situation in which programmes can be made quickly and with a certain unity of thought and presentation which may otherwise be lacking.

But I emphasize that this method is something which may be resorted to during the pressure of expansion and not as a permanant measure. Permanent organizational form beyond the needs of a single series should not be established. The writer-presenter should, I feel, be used on short contract only.

R. Lundgren
Head of School Broadcasting —
Sveriges Radio, Sweden

How the qualifications desired can be combined in the production team (Experiences in Sweden)

A balance should be struck between the members of a production team so that possibly all the qualifications desired are represented.

RADIO

A. *English course for grade 4.*

The producer is responsible for the smooth run of the whole project : the contents of the book, the contents and form of the 65 radio lessons, and all the « outside » activities which in this particular case are unusually numerous and complicated.

a. *Production of books.*

The producer has the formal qualifications of a foreign language teacher and a few years of teaching experience.

The editor. If the producer is responsible for the contents of the printed material, the editor can be said to be responsible for its form; she has an academic degree in foreign languages, experience of publishing work, special training in lay-out.

The script-writers : a) A Swedish script-writer who is a teacher at the Stockholm Teacher Training College and thus trains teachers-to-be how to teach English at the school level in question. He has as much specialist knowledge as one can wish, then; *b*) An English script-writer who writes the texts of the book in collaboration with the Swedish script-writer. In spite of all the specialist knowledge, both in the subject and the methods to be used that the Swedish teacher has, we always want to have native writers in the production teams of foreign language courses, however simple the language in a beginners, course is. The Englishman has been trained to teach his native language and used to be one of the English lectors at Stockholm University. His talents as a writer of interesting texts within limited vocabularies is extraordinary.

The artist, who draws the illustrations according to the indications given by the writers, the producer and the editor.

b. *Production of radio lessons.*

The Swedish script-writer is also a radio teacher and was chosen because of his ideas about methods and his perfect English pronunciation.

There are two assistants in the lessons whose native language is English. They do not take part in the writing of the scripts of the lessons but only voice the parts given them by the radio teacher. They were chosen on account of their pronunciation and their acting ability. In the second year of English, the texts are usually in the form of dialogues and little dramatizations (too big a word, perhaps). They are then always enacted by English voices — others than the above-mentioned assistants — who, although they are amateurs, have a certain talent for acting. (In other cases, *e.g.* a Russian course for adults, we used professional actors for these little sketches.)

The producer is still the key person; he is the organizer of recordings, prepares them by vetting the scripts and ordering the sound effects and music desired, booking facilities, etc. In all this he is assisted by his secretary.

c. *Outside activities.*

It is still the producer who is the key person. He is responsible for the organization of visits by 45 inspectors to all the classes taking part in the courses, for the distribution of tests and guidelines for their correction, the organization of summer courses for teachers, and of course he has to answer all the correspondence. Here again he is assisted by his secretary.

B. *Going to school* (one broadcast for grade 1 when the children start their first school-year in September).

This is the type of programme that does not call for specialist knowledge of an advanced kind, but rather experience of what the beginners should be told right at the beginning of their school career to make them feel at home at once.

a. *Production of the pamphlet.*

The producer is a most experienced teacher of beginners and taught at a teacher training college before she joined our staff. She must be considered one of the authorities on teaching at the elementary level in the country and does practically all the job herself in this case. She writes the material for the pupils' pamphlet and also the guidelines in our teachers' magazine; she suggests illustrations to the artist. Again, the pamphlet editor, who is also an ex-teacher of beginners, is responsible for the form of the printed matter.

b. *Production of broadcast.*

The producer writes the script herself, and acts as presenter, as she has the ability to talk in a way that makes the very young target audience listen. There are a few interviews in the programmes (visit to a school, where we meet a teacher and her class, the nurse, the cook in the canteen, etc.). The producer acts as interviewer herself.

All through the preparations she has had at her disposal a secretary for typing scripts, contacts with participants, etc.

This type of production is, as can be seen, very much a one-man — or rather a one-woman — job.

TELEVISION

Chemistry (A course of 14 lessons for grade 8; the course book makes any other chemistry book unnecessary.)

a. *Production of books.*

The script-writer is a professor of chemistry of outstanding ability. As he does not teach on the level aimed at in this television course, his script is judged and commented on not only by the producer (who is not a specialist in chemistry), but also by a specialist teacher who teaches the subject in grade 8. Again, the editor is responsible for the form of the book. She is, in this case, not a specialist in chemistry, but has a great deal of experience with the publication of teaching materials in science and technology. The artist draws the illustrations according to instructions from the script-writer, producer and editor.

b. *Production of television lessons.*

The team is now the script-writer, who acts as presenter himself (if possible, we prefer to use the same person for these two jobs), the producer and his assistant, and the specialist teacher, who is still consulted about the phrasing of the script to make sure that pupils at the level aimed at will be able to follow without difficulty. The producer's contribution now is the televisual form of the presentation, and as he is very experienced and has unusual artistic interests and talent, he manages to add artistic qualities to the presentation of very factual subject-matter. For all the preparations (like booking facilities, scenery, models, etc.), and for the rehearsal and recording, he has a production assistant at his disposal.

General remarks.

The way of combining the qualifications desired varies from case to case. The producer is always the key person, being responsible for the whole project, and of course he is chosen in relation both to the subject to be treated and to the other persons involved. It is really only the more formal or easily measurable qualifications — like specialist knowledge and teaching experience — that can be balanced within the team. There are more personal qualities — like ability to co-operate and organize — which must always be inherent in everybody in the team really and therefore cannot very well be balanced by putting other people in the team to cover shortcomings.

Final Report of Commission II

Saturday, March 18th. 1967

The Final Report prepared by the animateurs was introduced by M. M'Bow, the Chairman of the Commission and presented by S. S. Allebeck, the Rapporteur.

Amadou Mahtar M'Bow

Minister of National Education in Senegal

The terms of reference of Commission II, over which I had the honour to preside, were to examine problems of organization and planning.

The International Organizing Committee of this Conference had proposed the following 4 main themes for discussion :

- — theme 1 : output and efficiency of the various types of educational radio and television;
- — theme 2 : economics of educational radio and television;
- — theme 3 : role of educational radio and television in planning;
- — theme 4 : structure and organization of services.

It has appeared to the Preparatory Committee for Commission II, composed of Mr. Allebeck, Rapporteur, of M. de Chambure, Deputy Secretary General of the Conference, of M. Brunswic, Deputy Rapporteur, and of M. Le Gall, member of the International Organizing Committee, that the subject for discussion was too general and therefore too unwieldy for a first interdisciplinary approach. In view of the fact that planners are generally unfamiliar with the specific characteristics and problems of educational radio and television, and, secondly, that experts do not always think in the same terms as planners and economists, it seemed necessary, rather than compare results, to organize a seminar and to list problems.

The preparatory committee had sent a questionnaire containing 4 types of questions to 14 countries which could be considered representative, that is : in Europe, to France, Sweden, Poland and West Germany; in Africa, to Senegal, Congo Kinshasa, Ghana and Niger; in Asia, to India, Iran and Israel; in the Americas, to Chile and the United States (more exactly to the Chicago Junior College); and in Oceania, to Australia.

The animateurs of our Commission, in addition to M. Le Gall, who was also kind enough to take the chair in my absence during the first two days of our discussions, were M. Debeauvais, M. Lourié and Mr. Lyle. Mr. Birkrem, M. Deschamps, Mr. di Pasquale and Mr. Rowe, M. Garnier, M. Guillin and M. Ménard, among others, also took part in the work of the Commission.

Other outstanding contributions to the effectiveness of our work were made by M. Michaud and Mr. Scupham.

After a study of the documents received, the animateurs realized that, although the material was extremely rich, it would be difficult to exploit it in a relatively short period of time. They therefore suggest modifying the draft agenda by re-defining theme 3, i.e., the role of educational radio and television in educational planning, and asking the planners to first introduce the subject methodologically and, second, after a discussion of salient points, to make a synthesis.

The Commission started its work on March 8th by adopting the proposals made by the preparatory group and the animateurs; therefore, the report that Mr. Allebeck is going to present to you does not follow the original draft agenda chronologically.

Our Commission was composed of approximately 80 delegates from all continents; Europe, Asia, Africa, the Americas and Oceania were represented in its midst and we were able to note that at least 50 of its members regularly attended all the sessions. The participants belonged to various branches; there were educational radio and television teaching specialists, as well as administrators, planners, engineers and producers.

The general atmosphere was one of hard work, but also of informality, and there was, from the beginning, a common intention to engage, in an excellent spirit of nternational cooperation, in a fruitful dialogue on all the problems under study.

Of course, not all the members of the Commission were satisfied with the results obtained. Surely, in view of the nature of the problems we had to examine, their novelty, and the fact that, for the first time, specialists of different branches were comparing their findings, no spectacular results could be expected at once.

Nevertheless, effective results have indeed been obtained. They are, I repeat, modest but certainly realistic. Of course, a number of problems remain unsolved. The Commission felt that in certain fields, rather than look for immediate answers to problems, it was preferable to define them. However, the Commission has also made a survey of the work that remains to be done after this Conference.

Organization and Planning

Introduction.

It would seen natural that the main object of a Conference organized under the auspices of the E.B.U. would be to bring together at an international level professionals of different skills working together in broadcasting organizations of different types. But for reasons that are clearly stated in the preamble to the programme, the complexities of educational needs in the modern world demand new approaches to the activities known under the name of educational radio and television. Commission II, Organization and Planning, has attempted to establish a dialogue of a new kind. In our group specialists of very different sorts have been assembled : civil servants from the Ministries, directors in executive capacities, administrators responsible for the evaluation of the phases of the development. They are people who normally do not work together, who do not know each other very well, and who may not even speak the same language. Most delegates would admit that in Commission II they found themselves in a completely new situation : a team-work of economists, educationists and broadcasters engaged in the search for guidelines for the planning and organization of educational broadcasting.

We knew that in many respects we would have to start from scratch and function as a working-group struggling to gain new ground by tackling the problem systematically from all sides.

We started our dialogue by inviting the planners — and incidentally the English term planning should be taken in the sense of over-all social and economic planning — to put a number of questions to the educationists and broadcasters among us, such as : Have we defined clearly what our aims are? Have we set up criteria that enable us to assess the actual costs and the efficiency of the broadcasts?

To find a common language so that we can speak to each other no matter what our backgrounds are — in Ministries (of Education and others), in boards of education, in broadcasting services, in international organizations which might provide loans for educational projects — one can learn the grammar and, as it were, analyse the parts of speech. But as in modern language teaching, one can also use the structural approach and work with patterns. Would it be possible, we asked ourselves, to find such patterns or models which would be flexible enough to be useful in all sorts of situations where economic and educational planning is involved? The charts that are presented later in this report are attempts to answer this question.

This feeling amongst most of the delegates in Commission II that we were starting our work from scratch should not be interpreted as if we were lacking in background material. On the contrary, many delegates brought to the Conference very complete reports of their experiences of planning educationally as well as economically for a broadcasting service. They represented a rich variety of uses of radio and television — from enrichment programmes produced by national broadcasting organizations to total teaching projects run by local radio or television stations. In other terms, our job was not to make descriptive surveys but, from cases selected from the collected material, to find criteria which would be universally valid.

1. Is this year's enrolment a true reflection of growth, or does it also include repeat students?

2. The problem of organization. There may be a beautiful schematic drawing of lines of authority and responsibility, but does the programme really work that way?

3. The problem of finances. Investments and expenditures are very likely carried in the budgets of several departments or even of several ministries. The people in charge of Educational Radio and Television programmes most frequently just do not know (and quite possibly do not really want to know) the actual cost of their programmes. They may have a good accounting for the expenses of their own section or division and will present this as the programmes' cost. But it may not include such items as technical costs of studios and crews, transmission, the provision of sets for reception or the investment of time by classroom teachers without whom the programme could not operate.

The implication of these and other such problems is two fold. First, most existing programmes obviously have not had adequate planning. Second, and related, such planning is difficult because of the extremely complex overlapping of responsibilities within the larger governmental structure.

I. THE PROBLEMS OF DEFINING THE EDUCATIONAL AIMS

We are agreed that planning of education remains a global approach at the highest level and that education in itself is not limited to formal schooling. It should include all sorts of educational activities whether they are dependent on a Ministry of Education or not. Clearly the overall planning also should include the new media of radio and television. In the ideal situation, then, the discussion of the possible and most efficient use of educational radio and television should take place at a level where decisions are made on the allocation of financial resources. This is a great opportunity for the proponents of educational radio and television. But here again the problem is to find a common language. In such a confrontation it will not suffice for the educational broadcaster to stress in very general terms the potential of the new media. Educational radio and television must be judged by the same criteria applied in evaluating any other demands on resources in society. It is always a matter of priorities.

It is a technical debate that has to take place. The educational broadcaster must be able to define how he plans to use his media and state his objectives clearly.

Is this possible?

This question was put to the members of the second Commission and several sessions were devoted to the discussion of objectives of educational radio and television programming. As background material we used the reports we had received from the various organizations in answer to a questionnaire that had been prepared for Commission II.

Four animateurs, Messrs. Birkrem, Deschamps, di Pasquale and Garnier were asked to study the material and present the results. In the questionnaire the aims had been grouped according to the possible functions of educational radio and television in relation to educational needs as follows :

1. the improvement of traditional education;
2. the extension of educational opportunities;
3. basic education and literacy campaigns;
4. vocational training.

However, it became evident from the reports of the animateurs and from the ensuing debates that this typology could not be made to serve practical purposes. Delegates from several organizations reported that they had experienced great difficulties in applying this classification of aims to their educational radio and television services.

The Commission then tried to approach the problem in a different way. A model table was set up in which educational radio and television broadcasts were defined according to two criteria :

a. subjects, level and type of audience : classification made in accordance with internationally accepted standards (vertical column);

b. functions of educational radio and television in relation to educational needs. Here qualitative as well as quantitative objectives have to be considered (horizontal column). The problem of measuring the audience is a difficult one; less in the case of « captive » audiences (schools and universities) where educational broadcasters should be able to define their aims in quantitative terms. However, in the case of « non-captive » audiences the number of viewers and listeners cannot be determined exactly. Instead reliance has to be placed on estimates.

ORGANIZATION
COUNTRY

WORKING PAPERS ON THE AIMS

RADIO ☐
T. V. ☐

		Aims→	QUANTITATIVE			Experimental Projects	QUALITATIVE	
Audience ↓			R.T.V. centred Education	Extension Number of Pupils	Extension New subjects		Reinforcement	Enrichment
POPULATION UNDERGOING EDUCATION	Primary Education							
	Secondary Education	General						
		Technical						
		Teachers' Training Lower level						
	Higher Education	University						
		Teachers' Training Higher level						
		Post-graduate						
POPULATION NOT UNDERGOING EDUCATION		Literacy education						
		Vocational Training and Development						
		Social advancement						
		Lifelong Education						

Other projects not included in this table :

The delegates were asked to try out this table by applying it to the situation in their own countries. Below you will find the completed table. On the whole there seemed to be a feeling that we had found a working model which could well be used as a point of departure for further studies of this complicated problem.

In conclusion it should be reported that the procedure of planning outlined in the beginning of this report can only be followed in an ideal situation, that is in the case when an over-all social and economic plan does exist. In most cases it was reported this is not so. Planning will then take place at a different level to serve urgent needs. Educational radio and television broadcasters often find themselves in situations where quick action is needed, the reason being that radio and television often seem to be the only media that can offer immediate help. Lack of adequate planning often proves to have harmful effects on the educational impact.

Similarly, there is the danger of trying to serve two or more objectives at the same time in the hope of reaching the largest possible audience. It seems necessary to define the basic objective of a project and determine the financing of it accordingly. Other secondary objectives one might have in mind would then be considered as side effects.

II. THE ECONOMICS OF EDUCATIONAL RADIO AND TELEVISION

On this theme economists, educationists and communication experts had to work as a team in order to arrive at a general approach to the problems arising from the economics of educational radio and television. It was apparent from the discussion that these problems of educational economics were extremely complex and that it was very difficult to arrive at comparative studies owing to the diversity of costs and expenditure which could be included in this or that budget.

Educational radio and television have the good fortune to be particularly young and undeveloped — uncommitted to traditional structures. It may therefore be well worth while, at meetings such as these, to set about standardizing the study of the economic principles. The replies to the questionnaires sent to Commission II yielded a great deal of very complete information coming from different organizations. Analysis of this information showed, however, that the criteria used for cost evaluation varied considerably from one country to another. It was very soon recognized that a general report should be drawn up for the purpose of unifying cost evaluation procedures and laying the foundations of a methodology. It was also apparent that, as far as resources and organization were concerned, Commission II did not have enough information to make a serious study of the problem. So the Commission confined itself to the study of the costs and expenditure actually incurred in getting a project under way.

A working-group led by M. Lourié of U.N.E.S.C.O. attempted to draw up a model table, a sort of check list of expenditure for an educational radio and television project. This is not an elaborate financial analysis and economists will probably find nothing new in it, but it gives an idea of the different types of expenditure and may facilitate discussion between educationists and communication experts, on the one hand, and financial experts on the other.

This check list (see enclosed table), was presented by M. Lourié, as follows :

Whether planning the setting up of a new School Television project or network, or extending an existing operation, educators, producers and financial authorities must take decisions concerning the qualities and skills of the necessary staff as well as the quantity and specification of the required equipment and material. Such choices ideally should be based on accurate knowledge of the relative costs of the various possibilities. These costs need to be related to the objectives pursued. Such objectives need to be expressed in terms of the content of the programme and of the nature and level of the audience. Cost analysis will vary considerably, however, with each programme, and different unit costs will be taken as a basis for determining whether a given investment is justified for an expected output. A model to facilitate these choices and which would be based on cost analysis is thus extremely difficult to propose on an international basis, given the present knowledge of School Television performance.

Nevertheless, an essential prerequisite for cost analysis is a complete and thorough knowledge of all expenditures that may be involved in a School Television operation. The table is therefore meant to be used as a check list for all expenditures which go into the set-up and running of a School Television service. With small changes it can be adapted either to individual projects or to an assessment on a national basis of all School Television operations.

This list is presented in the form of a double entry that tabulates the various stages of a School Television operation and the various expenditures that have to be met throughout such a process. The horizontal column covers the three main stages of operation : production — transmission and distribution — reception. Each of these three stages is then in turn, subdivided into six specific activities which make up a School Television operation. These are : administration; planning and preparation; execution; publication; evaluation; research or checking; and training. It is felt that these six activities occur with varying degrees of relevance in each of the three main stages of School Television.

Obviously such a breakdown into six activities needs to be reassessed by each country using such a framework. For example : Where does planning end and execution begin? Is script-writing and background research for a given programme part of planning or execution? The answer to this may vary from one country to another.

The heading entitled *Publication* includes both material necessary to promote School Television activities and to improve information concerning it, and obviously the production of accompanying material for teaching purposes. Finally, for those projects which cannot relate the six activities to each of the three stages proposed, an additional column is proposed to reflect global expenditures for each of the six activities without necessarily linking them to a given stage of operation.

The vertical column is meant to cover the various types of expenditures that may be encountered. The two main headings are related to either investment or capital expenditures and to recurring or operational expenditures. In turn, each of these main headings is subdivided in order to reflect as accurately and as fully as possible the types of expenditures that a School Television operation may lead to.

In conclusion, such a table when completely filled in, must be related to the specific programme objectives and audience. Then only can a more detailed relationship be established between expenditures and results, and that in turn should pave the way for cost studies which are essential tools for management control and financial analysis.

It is strongly urged that such national experiences as already exist in unit cost studies should serve as illustrations for a study leading to a framework which may serve as an international reference standard. This may well be the follow-up which together with an amplification of the present check list might become the core of the recommendations of Commission II.

Obviously the Commission's work does not end with the problem of costs. In the short time available to the seminar it was not possible to go further. The following stages should consist first of a survey, on the basis of this check list of expenditures, which would make it possible to establish certain correlations and a cost analysis, the indispensable norms and parameters being taken into account.

Once the costs are known the problem of utilization arises. Naturally the latter is conditioned by the nature and duration of the project and the nature and size of the audiences. When all these factors are combined it should be possible to establish comparative costs. However, if a clear idea is to be had of these costs, it is advisable to use, alongside this table of expenditure, the table of objectives which was also drawn up by the Commission, and to take into consideration the stage of development of a project. It might be necessary to draw up a table in terms of the development and age of a programme (preliminary studies, experimentation, development).

The Commission was also of the opinion that this work should be followed by technical-economic studies on the minimum equipment required and the best techniques of production. These studies should be carried out fairly quickly and should be brought up to date frequently owing to the very rapid progress being made in radio and television technique.

III. EVALUATION AND OUTPUT

In its discussion of educational radio and television evaluation output problems the Commission considered information from two sources :

1° The various organizations' replies to the Secretariat's questionnaire;

2° A study by Mr. Coombs, Director of the International Institute for Educational Planning, summarizing excerpts from a forthcoming book entitled : « The New Media : Memo to Educational Planners » by Messrs. Schramm, Coombs, Kahnert and Lyle.

The replies to the questionnaire showed that organizations had found great difficulty in answering precise questions on evaluation. None of them was, in fact, yet in a position to make useful evaluation in the planner's sense of the term; the only attempts in that direction brought to the Commission's notice were those concerning the Hagerstown project.

Examination of the information received showed that evaluation should relate not only to the broadcast itself but also, in the first place, to objectives and means and to the cost aspect; further it was apparent that the attitude and receptiveness of the teaching community, which would be using the broadcasts raised an equally important problem in the evaluation field.

During the debate which followed Mr. Coombs' statement, evaluation problems were tackled from the point of view of different national experiences. A working party classified the main subjects of discussion under the following headings :

— the importance of evaluation,
— the types of evaluation,
— the conditions for evaluation.

A. *The importance of evaluation.*

Evaluation is essential in educational radio and television; without it, there can be no progress in methods or in the most effective use of manpower and financial resources. It is also a means of comparing results with objectives and the achievements of educational radio and television with those of conventional educational methods. Thus evaluation forms an integral part of any educational radio and television programme and is not an isolated operation.

Evaluation is a complex and many-sided concept : it consists of comparing results with objectives, and there are as many ways of evaluating results as there are different objectives. The first difficulty lies in elucidating the objective, or set of objectives, of the educational radio and television programme concerned. In this connection, reference can be made to the Commission's discussion of objectives. For each of these objectives, specialists can suggest the evaluation criteria that might be applied.

According to whether the objectives in view are qualitative or quantitative, the criteria and methods will vary.

B. *Types of evaluation.*

1. *Quantitative evaluation.* Where « productivity » is concerned, certain methods used by economists for cost analysis can be employed. Generally speaking, these consist in comparing cost with output expressed in monetary terms.

This method can be applied to the evaluation of school output.

a. If the objective is merely to provide instruction to pupils by educational radio and television, the « unit cost » can be calculated by dividing the total expenditure on the programme by the number of pupils regularly following it; these unit costs can then be compared with the corresponding costs of the traditional education system. The same procedure can be followed in the more usual cases where educational radio and television is combined with other methods.

b. If the *results* of the instruction have to be evaluated, the « cost per graduate » can be calculated, taking into account drop-out, percentage success in examinations and so on.

Scientific tests of the assimilation of knowledge can also be made in order to measure the results obtained by the use of different methods (educational radio and television, traditional or mixed), whose costs are known.

When programmes tackle more ambitious projects than school attendance, such as advanced training or guidance for agricultural workers, evaluation methods can be applied to measure the growth in agricultural production, changes in production techniques, the introduction of new crops, and so on.

Evaluation criteria can also be used to gauge the indirect results, corresponding to more complex objectives : the analysis techniques of « costs and benefits » attempt to measure the indirect (or induced) effects and the delayed effects, taking into account the time required for the project to develop and spread.

In addition, the concept of « opportunity costs » makes it possible to calculate the value of the objectives which are abandoned by devoting financial resources (inputs) to an educational radio and television programme. In this way, it is possible to compare the objectives of an educational radio and television programme with the other objectives of a development plan.

2. *Qualitative evaluation.* It should be understood that efficiency must also include consideration of qualitative aspects. There are two major categories of qualitative effects :

a. First, there is learning achievement in the designated subject. With planning, this is a relatively easy factor to measure. But the existence of two levels of learning should be recognized. For example, in the Niger experiment it has been found that television students have shown more improvement in the acquisition of concrete knowledge than in learning problem-solving skills. It should also be recalled that we may be concerned with learning by the classroom teacher as well as by the students.

b. Attitudes and motivations with regard to the concepts or institutions discussed in the presentations or involved in their production. For instance, we should be interested in knowing if the programme has increased the appreciation (favourable attitude) of, say, parents towards education, of students towards their classroom work, or the acceptance by peasants of a government campaign to introduce new laws. One should be alert to unexpected changes. For example, the U.A.R. reports that the programme to keep doctors informed of new surgical techniques also affected the fear felt by many people of undergoing surgery. The point is that a programme may be beneficial (or harmful) in ways other than those intended by its creators. There is also the question of « ambiance » — the attitude of teachers and the changes they make in their classroom environment and activities in response to radio or television stimulation.

Qualitative aspects are generally the hardest to measure, particularly if they are of a long-term nature. However, in the end they are perhaps the most important criteria for evaluating success or failure. While they do present difficulties, these are not insurmountable. Providing there is a clear definition of objectives, a good behavioural scientist with imagination can find ways of adapting basic techniques to find the answers. This, however, is the responsibility of Commission IV.

C. *Conditions for evaluation.*

It is not enough to stress the importance of evaluation. Steps must also be taken to define the concrete measures needed to make evaluation an integral part of any educational radio and television programme.

Several participants pointed out that the funds required for evaluation should be included in the budget for each programme or operation — which is not always the case.

It was recalled that there are several different types of evaluation, each of them important : evaluation relating solely to the transmission of the message, which is frequently the only type performed; and evaluation of the effectiveness of the programme in relation to social and economic development needs, i. e. to the objectives of society as a whole, or at least to wider objectives than those of the programme in question. This second type of evaluation involves research work and not just a programme report.

Evaluation specialists should be associated in the preparation of educational radio and television programmes from the initial stages, so that they can contribute to a precise definition of the objectives and to the evaluation criteria and methods to be used.

Attention was drawn to the importance of publishing evaluation results even when they are partly or totally negative.

It was also pointed out that evaluations, even when they are satisfactory, can never include all the effects of educational radio and television programmes, particularly in view of their total coverage, which is invariably wider than the regular audience.

Since there was no time to devote more than one session to evaluation problems, the Commission found it difficult to go beyond questions of methodology, which could serve as a starting point for future meetings.

IV. STRUCTURE AND ORGANIZATION OF SERVICES

As its fourth topic Commission II had under discussion the structure and organization of educational broadcasting services, with particular reference to the relationship between broadcasters and educational authorities.

To open the proceedings M. Michaud of the Canadian Broadcasting Corporation presented a paper dealing with those great social and educational changes which have established a new context for educational broadcasting, and which must be taken into account as background factors in determining the appropriate forms of organization at this stage in the development of the broadcasting media as educational instruments. On the one hand, there was a growing democratic pressure for the extension of education at all levels; a realization that education in a changing technological civilisation must be a lifelong process, and an opening up of new subjects and new ways of teaching, coupled with a shortage of teachers which made it impossible to meet the new demands in conventional ways. On the other hand was a new appreciation of the possibilities of the broadcasting media as modes of education with their own unique strength, as well as ways of enabling more and more people to share in educational and cultural opportunities.

Whereas broadcasting was once marginal to the educational process it was now more *central.* In these circumstances it was important to ask whether the forms of organization devised when educational broadcasting was primarily a means of « enrichment » should not undergo radical revision. The traditional method of collaboration between the great broadcasting organizations and the educational authorities was through « bipartite » bodies on which both sides were represented. In M. Michaud's view the time had now come when countries with developed broadcasting systems should be moving towards the establishment of special educational channels operated by the broadcasting organization with a high degree of autonomy and subject to the broad educational control of the education authority.

In a paper based on the experience of the Instructional Television Trust in the establishment of an educational service in Israel (which has no general television) Mr. Rowe proposed a more radical solution which might commend itself especially to the developing countries.

There, above all, there must be a shift of emphasis from « enrichment » (though an opening up of horizons remained an important task of educational broadcasting) to direct support for the teacher in dealing with his central curricular concerns. Broadcasts had now achieved a real maturity as a way of helping him through its own characteristic, unique, and powerful means of communication, and while the broad control of educational policy should be vested in the proper educational authorities, educational broadcasters should be willing now to assert the claims of their media as a new educational force, and to insist on the need for freedom from unduly restrictive pressures. They could do so only in so far as they were professional educators as well as educational broadcasters, and could best do so within the framework of an autonomous public educational institute. The ultimate departmental responsibility for such an institute would rest with the Ministry of Education, but it would be equipped and able to act as a centre of production, a spearhead of educational progress and an instrument for research into the possibilities of all the newer educational media. Within such an institute the duality between educational control and technical production would disappear. In the relationship of the institute with the educational authority this duality — which has been the major source of conflict in all educational broadcasting — would progressively be reduced to a minimum.

It was common ground between the animateurs and was generally agreed in the subsequent discussion, that the central problem was that of reconciling educational control with the exercise of the degree of creative freedom in the planning and production of programmes which is necessary to ensure the effective use of the media. It was recognized that national circumstances varied so widely that there could be no universally valid type of organization. Nevertheless, there was everywhere a recognition that the first phase of educational broadcasting was drawing to a close, and that there then should be a rethinking of traditional practices.

The direction of change everywhere was towards a closer integration with the national system of education. Four main patterns of organization were, however, likely to persist for the foreseeable future. These were enumerated as follows in a working paper prepared by Mr. Scuphan and accepted by the Commission.

Types of organization. Types of organization can be reduced to four main categories with large variations.

1. Services initiated and run by broadcasting organizations with special arrangements for liaison with the educational authorities and the world of education.

2. Services of the above type moving towards a closer integration with the educational system.

3. Services initiated and run by Ministries of Education and/or other Ministries; or by local education authorities but using the professional and/or technical help of broadcasting organizations.

4. Services initiated and run by educational authorities in possession of their own technical and other facilities.

It was agreed on the basis of a second working paper that there were certain necessary conditions of an efficient educational service, which were capable of being fulfilled through a variety of structures, and towards which every organization concerned with educational broadcasting should be striving. These were listed as follows :

Over-all Educational Planning. The service should be envisaged as a part of the national plan for education, and in relation to other means for attaining the same educational ends.

Administrative considerations. The service must have secure possession of :

a. transmission times at which the great majority of the target audience is available;

b. a budget and facilities adequate to its educational commitments.

In view of the need for long-term planning and long-term information to the audience these must be guaranteed for a reasonable period ahead. There should, furthermore, be provision for growth.

Policy control. Control of broad policy should be in the hands of the competent educational authorities. The extent and nature of that control should be clearly defined.

Programme Planning and Production.

a. The detailed planning and production of programmes should be in the hands of people with a thorough professional competence in the use of the broadcasting media as means of educational communication.

b. Whether or not there is a division of functions (e. g. between the educational planner of a programme and the « metteur en images ») all those involved should be conversant with and committed to educational purposes.

c. There should be continuity in the allocation of personnel to the educational operation.

d. There should be provision for the collection of any information necessary to the programme planner.

Supporting material. There must be adequate arrangements for the production of printed or other supporting material.

The utilization of programmes.

a. The competent educational authorities must take ultimate responsibility for the installation and maintenance of receivers for the target audience.

b. The teachers who use programmes (or their representatives) must be consulted and must be involved in the process of assessment.

c. The teachers using programmes must be trained in their effective utilization.

Feedback and research. There must be adequate arrangements for :

a. feedback from the target audience as a guide to planners and producers;

b. fundamental research.

Educational radio and television in relation to the educational system and the mass communication media

Conclusion

At its final meeting, Commission II drew up a list of the fundamental questions which were still left open.

— *Relations between educational radio and television and broadcasting organizations.*
Was it possible to go beyond laying down lines of demarcation and achieving a mutual attitude of benevolent neutrality?

— *Relationship between educational radio and television as a new teaching method and the education system as a whole.*
How and under what conditions could and should Educational Radio and Television be integrated in a planned education system and how could educational radio and television specialists be involved in the definition of objectives, their implementation and the allocation of funds?

— *Relationship between general planning and individual demand.*
What possibilities were there for taking consumer demand into account in defining educational radio and television aims, so as to avoid giving the impression that broadcasts are a consequence of technocratic decisions?

— *Relations between educational innovators and economists.*

What possibilities were there for arranging worth-while exchanges of opinion between educational radio and television experts and the economists concerned with allocating invariably limited national resources?

1. *Relations between educational radio and television organizations and broadcasting organizations.*

In most countries problems relating to the school education system are by common consent left to the educational authorities. On the other hand, problems of responsibility for general education, cultural activities, life long education and vocational training are still largely unsolved. Here there is a no-man's land, disputed between the experts on educational communication techniques and the professional communicators whose mission is to spread ideas and cultural values. The solution to the problem of responsibility certainly lies outside the competence of either party and can be reached only at political level. A detailed interdisciplinary examination of these problems has not yet begun.

This is an area where it is often impossible to tell who holds the power of decision-making and where problems are settled according to the balance of power. In the absence of precise information on the effects of mass communication media and in view of the difficulty of evaluating the efficiency of educational radio and television, there can be no dialogue (for lack of common language the communicators do not succeed in communicating with one another).

Here the planner could surely act as a go-between and create the conditions for a dialogue which could bring the two professional bodies closer together.

2. *Relationship between educational radio and television and the education system as a whole.*

It seems that there is a contradiction between the community character of television and the humanist, individualist mission of the education system. The outcome of these two opposed aims is often that educational radio and television becomes a marginal phenomenon, just tolerated within the education system. If the part educational radio and Television can really play is to be recognized, it seems essential that educational radio and television be brought in at the decision-making levels of programme-planning and the formulation of general educational objectives.

3. *Relationship between planning and demand.*

The Commission's discussions showed also that objectives as determined by planners did not coincide exactly with what consumers, whether children or adult, wanted. An audio-visual message, however, cannot be effective unless it answers a real need; this is what in Commission IV is called motivation. It therefore seems that there should be a defined common area in which the planners and the communicators would each bring their particular techniques to bear on the satisfaction of audience demand.

4. *Relations between educational innovators and economists.*

Some speakers also pointed out that economists and people holding the purse-strings often adopted a traditional, defensive attitude towards those trying to promote educational radio and television and would refuse to envisage genuine reorganization of the whole system in the light of new technological possibilities. Faced with this conservative type of resistance, the educational radio and television expert very naturally looks to the planner for arguments with which to convince economists or the finance men.

To summarize, it has emerged from the proceedings of Commission II that the planners and an educational innovator like the educational radio and television expert share certain ideas and that together they can help to overcome the prejudices of the traditional education authorities and the radio and television corporations. This common ground was realized only gradually, in the course of discussion. Here, of course, we have no more than a first approach and this line of thought should be pursued at future meetings.

On the existing information, it is hardly possible to give a complete answer to all the questions which Commission II was asked to discuss; a purely theoretical answer, moreover, would be worthless. The Commission's discussions have brought to light a number of possible approaches and have made it possible to take the first steps towards partial answers.

The Commission did not have time to study the voluminous documents (nearly 500 printed pages) submitted to it, still less to think about strictly technical-economic problems. The Paris Conference has given rise to a proliferation of studies in this field, among which it is worth mentioning the following :

- — A technical-economic study on optimum production methods for educational radio and television programmes by a joint office of the O.R.T.F. and the I.P.N.
- — An economic study by the O.C.O.R.A. on production methods for school television programmes in developing countries.

- — A study by N.H.K. on financial aspects of educational radio and television.
- — An account of an educational television centre at Ateneo University, Manila (Philippines).
- — A study by Chicago City Junior College on the economics and costing of its television activities.

One of the next steps most urgently desired by all members of the Commission would be to publish, from time to time, a working document dealing not only with the technical economic problems and the administrative aspects, but also with the planning of educational-radio and television. These publications could be replaced by symposia or specialized seminars as occasion required.

In conclusion, the interdisciplinary study begun in Commission II should lead to the establishment of cost-determination standards and of a model system of organization such as to facilitate discussion and exchange of experience with a view to getting bearings on where the power of decision resides and making the kind of choices which permit fullest use of the resources of educational technology for the benefit of the nation as a whole.

Recommendations of Commission II

a. *General Recommendations.*

I. The Commission notes that an interdisciplinary examination can be made of the problems raised by the establishment or developing of educational radio and television.

II. This examination is of particular importance when educational radio and television is being introduced in a developing country.

III. Such examinations — of the types, objectives, economics, output and organization of Education Radio and Television — have helped to produce systematic and positive part-solutions to some of the problems raised.

IV. The Commission recommends the continuation by all appropriate means, *e. g.* :

— by existing or new publications,

— by a series of meetings, seminars or symposia, of the dialogue between the economists and planners who advise the decision-making authorities and educational radio and television experts with professional responsibilities in fields that are still inadequately explored and understood.

b. *Specific Recommendations.*

I. The Commission considers it desirable that, *in the first instance,* international information and study documents should provide continuous information on such questions as organization, equipment costs and planning. These documents could be published by the E.B.U. Secretariat, U.N.E.S.C.O. or any other regional or international organization. In this connection the Commission recommends :

a. that the model check-list of educational radio and television expenditures be published together with an explanatory memorandum for users;

b. that special prominence be given to cost accounting and evaluation methods, and that these be distributed to all agencies engaged in establishing, developing and operating educational radio and television projects.

II. The Commission recommends that a special study be made of the cost of training personnel for Educational radio and Television with particular emphasis on the countries that are preparing to set up new services.

III. The Commission recommends that a methodological study of existing organizations should be undertaken with a view to determining to what extent the conditions for an effective educational service (as listed in the Commission's conclusions) are being met.

Final Report of Commission III

Monday, March 20th, 1967

M. Kammans, the Chairman of Commission III, called upon Mr. Mc Bride to present his report.

Exchange and Cooperation

The Third Commission studied in some depth the myriad problems surrounding the topic of educational broadcasting exchange and cooperation. Within this broad subject, the assembled delegates directed particular attention to four principal themes : the exchange of written documents and personnel, international co-production of educational programs, the international distribution of educational programs, and the distribution and transmission of programs by satellites. The scope and complexity of the total area under consideration was found to be of massive dimensions. While the problems inherent can be identified and developed, their combined quality and quantity makes solutions the more difficult. But the Commission was encouraged by its discussions, by the prevailing attitude in favour of cooperative enterprises amply exhibited by both experienced and new broadcasting organizations, by the surprising number of unilateral and multilateral exchanges of many types found to have developed since the Tokyo Conference, and by its own findings.

With respect to the exchange of written information and personnel, the Commission found a number of examples in evidence, though the great majority dealt with country-to-country exchange. This current exchange must still be considered experimental, for both distributor and user organizations are still feeling their way and delineating their respective roles. Mrs. Meesook summarized the written materials available as : professional periodicals, such as *C[illegible]to News* and the *E.B.U. Review*; reference works and texts; research publications; and scripts, program guides and teachers' handbooks which themselves accompany the sound recordings, videotapes and visual materials now being distributed. Essentially thus far, these materials flow from the experienced broadcasting organizations to the less experienced, though certainly not exclusively. The principal problems of such exchange continue to be the irrevelance or unsuitability of materials in the user country; language and translation troubles which all but preclude the exchange of pertinent information composed in a language other than the two of international exchange; the unawareness that potentially useful materials exist; the scarcity of funds for exchange by both the developed and the developing countries; the lack of administrative structures and staffs to duplicate and distribute materials, as well as to screen and use them; the hesitancy of countries to force their materials on others lest they be unwanted; and the lack of continual evaluation of written materials actually exchanged.

With respect to the exchange of personnel, it has long been the general policy of such established national broadcasting organizations as the B.B.C. and the O.R.T.F. to help other broadcasting agencies overseas in need of expert advice or assistance. An increasing number of advanced organizations offer depth training courses and institutes. Trainees from the developing countries either join domestic staff in formal classes, participate in special classes designed for non-residents, or join the broadcasting organization for special observation or attachment. Short consultancy visits, on-site training, exchange of staff and secondment of expert personnel continue to be the other prime methods of personnel exchange.

There was general agreement in the Commission that assistance organizations in the future should be encouraged to emphasize the training of additional personnel from the developing countries over the sending of experts, consultants and technicians. Both new and experienced broadcasting organizations agreed that greater benefit accrues and funds spread farther with greater effect if this procedure is followed. The conferees concluded that in such training exchanges too great an emphasis has been placed on educational broadcasting to the exclusion of other professions such as teaching, and urged that training experience be provided for other than producers and programmers — as important as this continues to be. Recruitment of personnel for consultancies and secondments continues to be difficult; finding appropriate personnel, moving their families, resettling them are practical problems not easily resolved. Yet, there continues to be widespread belief that the sponsoring broadcasting organization is enriched by the experience which its own staff gains overseas. Another problem continues to plague both trainer and trainee organizations : developing broadcasting agencies are frequently so overburdened and so understaffed as to be unable to take full and proper advantage of the opportunity of sending personnel for training. Every effort must be exerted to make the most of these opportunities.

Delegates cautioned about placing the blame for the lack of exchange of written information and personnel solely on inadequate budgets; at the same time, it was conceded that educational broadcasters must be realistic. Ways must be found to be selective of the enormous amount of material available.

An experienced country would incur needless waste of time, staff and money by sending massive quantities of information to all on its broad mailing list. Methods must be developed for user countries to be better informed of the original objectives of the exchange materials, for they may well not be appropriate to the national cause. Several developing country representatives emphasized that the burden of responsibility lies with the receiver country to establish administrative offices, or a single staff member, systematically to analyze the volumes of incoming material, determine their relevance, distribute them to the appropriate personnel, and insure the proper utilization of those data selected for use. For, in the ultimate, only the user country can determine the appropriateness and relevance of incoming materials. Goodwill was emphasized as essential for all involved in the information exchange process.

It was pointed out that in many cases the necessary information is available only from another developing country. Such countries can keep abreast of the established broadcast ing organizations and their activities through newsletters, journals and bulletins. But the status and programming of emerging nations' broadcast activities, even that of neighbors, is too frequently unknown. Developing countries must work towards developing the time and staff to correspond, in the interest of information exchange and improvement. Also, it was pointed out that the more specific a developing country can be in stating its informational need, the more helpful can be the reply.

Regional union publications and those of other assistance organizations should be encouraged to provide more specific issues, articles, monographs and other publications treating specific topics such as children's programming, teaching elementary science through radio, and illiteracy training by television. Until such time as better processes for distributing information are established, developing countries will still have to rely on receiving depth information on a particular problem from a more developed broadcasting organization.

Particular attention was given to the establishment of a world centre to facilitate exchange. Such centralization theoretically would be particularly useful to the developing countries. However, there was general agreement that, because of the inherent difficulties, more modest approaches would have to be taken initially. Centres with regional focus, either geographically or linguistically, should be encouraged to stress the more structured distribution and exchange of information and personnel, including research. Conferees cautioned against duplicating existing structures, both for reasons of experience and economy, and urged the building upon present agencies and their experience. Regional unions already have considerable documentation, and are viable mechanisms whose prime function is service. This bespeaks as well the need for increased and concentrated coordination between regional broadcasting unions.

Delegates pointed particularly to the new documentation center in Munich and the Educational Research and Information Center in the United States as typical of developing service organizations of potentially great importance to the world educational broadcasting movement.

As for exchange and training of personnel, the Basel Production Seminar sponsored by the E.B.U. could serve as a pattern for broadcasting systems with roughly equal capabilities and experiences. The curriculum for such training sessions is prepared according to the needs of the trainees, a free exchange of information is developed, methods of production are thoroughly analyzed, trainees actually engage in test production, and the attendees return to their home systems much the richer. Such seminars in both radio and television are to be encouraged. Similarly, training workshops for newly developing broadcasting organizations, as conducted by agencies such as the Centre for Educational Television Overseas and the O.C.O.R.A. have proven highly practical and useful. Though constantly pressed for funds, C.E.T.O. has enjoyed a rewarding history of conducting resident workshops in London, holding training sessions in overseas centers, and seconding staff for long term assignments. O.C.O.R.A., as well, has developed its medium and advanced courses to the point that training for emerging nations' broadcast personnel is both systematic and highly productive. The B.B.C.'s excellent record in this regard has already been noted. The Commonwealth Broadcasting Conference offers yet another mechanism for on-going instruction of personnel. The Australian Broadcasting Commission can point to twelve years of the exchange of personnel for training purposes and to six years of international training schools. Such training should be encouraged, as should training of educational broadcasting staffs of all types by compacts and assistance organizations using multilateral approaches.

A word of caution, however. Both trainer and trainee nation and participant should bear in mind and strive to effect solutions to a number of problems born of experience. The personnel selected for training must be of the highest quality. Training needs should be expressed as specifically as possible well in advance of actual instruction. Conflicting interests between ministries and governmental sub-agencies should be resolved in advance. Every effort should be made by the requesting country to insure that trainees remain in careers for which they have been trained. Current records show almost a fifty percent attrition in the face of rapidly increasing need. Policies for training must be incisively defined by both the developing and host countries; priorities and directives must be clearly established. Countries should begin to think in terms of developing specialists who are proficient both in educational radio and television broadcasting and the other educational media rapidly being utilized in education, in other words, developing proficiencies as educational media specialists.

With respect to the exchange of personnel, it was concluded that there should be better coordination of information and better analysis of procedures on at least a regional basis, if not international; further, that existing regional compacts, such as the E.B.U., should devote more attention to publications dealing with the problems of training. U.N.E.S.C.O. representatives offered to assist in compiling a listing of organizations offering training, and in developing other publications concerning training methods and guidance. There was general agreement that, in view of the shortage of time, funds and personnel, every effort should be made by every agency and institution, national and international, to coordinate efforts, in order to reduce duplication of effort and increase productivity.

As the Commission turned attention to the problems of co-production and exchange of educational programs, Mr. Cassirer of U.N.E.S.C.O. pointed to the practical needs motivating educational broadcasters to seek programs from the outside : the lack of local programming resources, finance and staff; the need to bring to the classroom instructional resources not locally available; the need to improve local programs; the need to bring to the country more substantive programs than many of the inexpensive commercial properties readily available. Animateurs Rugheimer of Sweden and Watts of Australia laid out a number of the problems of educational program exchange and co-production which, interestingly enough, somewhat parallel the motivational needs : the lack of time to identify, arrange for and schedule programs; the lack of staff, money and production facilities; the lack of information about such available properties : program rights and clearances; the frequent requirement that educational broadcasters must defer decisions to the curriculum experts and are seldom free agents; the variations in educational planning and curriculum between countries; language differences; fees.

Members of the newer broadcasting organizations pointed out that the developing countries have all of the problems and virtually none of the means of solution. Also, that the countries newly turning to the use of educational broadcasting desperately and urgently need actual programme exchange materials, and cannot be satisfied simply with resolutions or other conference intangibles. The developing countries point out they will frequently have to substitute will for money in their quest for programme acquisitions.

Despite the problems inherent in exchange, delegates were enthusiastic in their interest in developing mechanisms for greater exchange, and heartened by the significant amount and type of programme exchange developed over the past few years. True, there has been a far greater exchange of programme ideas and experiences than radio and television programmes themselves. But this in itself is encouraging. And exchanges such as the jointly produced A.B.C.-N.H.K. programmes on the Asian Highway and the Mekong Valley, the A.B.C. and Thai « English for Thailand » series, the « E.B.U. Western European Geography » series, the Intertel Programmes, the International Radio-Television University experiences, O.C.O.R.A. productions and others point the way to even greater possibilities in the future.

It was pointed out that programme exchanges can benefit from the experiences of somewhat similar projects, though on an admittedly different scale and with admitted differences in approach and procedure. Yet the common denominators contained in the Australian Broadcasting Commission's workable programme exchange with six different Australian States employing six different sets of curricula are worth investigation. Similarly, the many years of successful Swiss radio programme exchange for a complicated educational system with four languages; and the four years of television lesson and course acquisition, cataloguing, duplication and distribution in independant school systems throughout the United States by the Nebraska Great Plains Instructional Television Library.

From the delegates' study and discussion of the programme exchange problem came a number of agreements, as follows. The needs of the less developed broadcasting stations are frequently vastly different from those of the older organizations. Exchange programmes often must be tailored for those least able to pay for them. Successful programme exchange and co-production require major planning and some abdication of national identity. Programmes must be planned for the outset, if they are to be used on a broader-than-national basis. The greater the similarity of needs, language and other factors, the easier programme exchange becomes. For this reason, programme exchange should most certainly be pursued at the regional level. Better methods must be determined for informing countries of the availability of exchangeable products.

Following the Tokyo Conference, at which the subject of programme exchange was a major resolution, A.B.C. prepared three programmes on the children of Australia for a « Children of the World » series, yet the programmes lay unused because of lack of information about potential users. How many other usable programmes go unused each year? A developing country delegate forcefully made the point that broadcasting organizations are wrong to assume that educational programmes, unlike commercial properties, should be obtained free of charge. More screening sessions should be developed, and more opportunities presented at various meetings to enable delegates to observe programmes of others, for through such procedures opportunist or chance exchanges can develop. International programme competitions such as the Prix Italia, Japan Prize and Prix Jeunesse offer excellent screening possibilities. Several exchanges have developed from these observations of each other's work; different narratives are easily dubbed onto the programme tape and a very useable programme made available. Developing countries need to find time to investigate what neighbouring countries are doing, for such may uncover many programme materials.

During its deliberations, the Commission determined that the term co-production carries different connotations in English and French. In the English language, co-production more narrowly refers to the pooling, between countries of resources, money, production staffs and facilities to develop a joint programme product for possible use by all participants. In the French connotation, co-production refers to the centralized production, following pre-planning with potential users, of a programme designed for service to many users. Both are valid approaches; each is currently being employed. The O.C.O.R.A., for example, produces various radio programmes in France, employing African writers and actors, for distribution to seventeen different countries. The I.T.A. has joined with N.E.T. in planning and producing a common series, « Struggle for Peace », to be broadcast over stations of both systems.

The principal problems of co-production, like programme exchange, still appear to be an insufficiency of information, difference in teaching requirements, language, staff time, rights and payments, and justification of participation.

Whether producing organizations join together to produce programme segments for insertion within local live programmes, or complete programmes and series, or whether a central agency produces programme units on behalf of one or more clients, co-production takes varying degrees of cooperation. A production agency has the option to : request to audition the programme upon completion, without assisting; suggest certain production alterations and join in production and use the final product; or exhibit interest and cooperation from the outset as a partner in production and use.

The Commission heard descriptions of a number of examples of the various types of co-production. To name but a few : the Ivory Coast-O.C.O.R.A. production of « Operation Rice »; Denmark-Sweden programs with Tanzania on developing countries; French school radio programmes with West European neighbors; the Franco-British and Franco-Algerian « Télévoyages » series; the B.B.C.-A.B.C. tours of Australia where production units pooled resources but produced separate programs tailored to each particular school audience; N.H.K.-A.B.C. joint productions, and N.H.K. co-productions with U.N.E.S.C.O. and U.N.I.C.E.F. for international distribution; Swedish-German cooperative enterprises.

Primary conclusions reached as the result of co-production discussions were as follows. The more similar the needs of participating countries, the easier the co-production. The more explicit the delineation of theme and of common standards and the more precise the pre-planning, the more successful the cooperative venture. All participants involved must be clear as to assignment and responsibility and cost distribution in advance of production. The power of decision must ultimately be given to one person from each participating country. Personal contact prior to production is essential; effective work can be accomplished only by people who know and appreciate one another. Languages offer one of the most effective content areas for fruitful cooperative production. Countries engaging in co-productions about life in their respective states should seriously consider trading assignments, in order for a foreign producer objectively to treat the subject country and arrive at a product which realistically shows the nation as it is, rather than as its broadcasting agency wishes to see it become. Caution must be taken here, however, lest the foreign producer completely miss the intended educational objectives. Experience indicates that co-production has the greater prospect for success if a modest or small-scale project is mounted. Co-production has better chances for success if the subjects under discussion are those of basic knowledge and universally acceptable content, rather than those of social significance subject to interpretation. Programmes prepared for developing countries are much more widely accepted when presenters and actors from the subject region are employed. Geographic, language and cultural commonalities are a contributing factor to successful co-production. A chief by-product of co-production invariably becomes the in-service training of participating staffs. The more closely the producers of the countries involved cooperate, the greater the degree of success. By sending a reporter along with the production team, raw stock can be fitted to a special narrative, custom-produced for local needs; indeed, various language dubs can be made. Cooperative production can be sold on an economic as well as programme improvement basis, for the more the participants in the project, the smaller proportionately the cost to each member. The people involved in co-producing get to know and trust one another and respect each others' professional abilities. These contacts and relationships can have lasting benefit to the broadcasting organization. The larger broadcasting organizations should be encouraged to seek opportunities to work in partnership with the developing countries, for each can learn much from the other.

Additional conclusions reached were : educational production agencies should not overlook cooperative ventures with their commercial counterparts within the same parent organization. Frequently, budgets and objectives can be meshed to mutual advantage. Similarly, joint teams and joint productions with neighboring countries have far more potential than yet developed. Further, we must keep in mind the possibility of preparing radio programmes simultaneously with the television joint venture. Much more time should be allowed for cooperative productions than for the traditional individual effort. Educators and programme developers must themselves think and plan more on an international basis.

Several cautions were recorded as well : cooperative production can misfire because teaching methods are different; studios, facilities and staffs may be too tied down to local productions to assist with mutual undertakings; programmes may not be as universal in their applications as originally planned.

In weighing both potential and problems, the Commission urged cautious though firm progress in developing cooperative production. Sobered by experience, the delegates dispensed with grandiose ideas and determined to proceed from realistic operational bases. This is still the testing period, but testing should proceed on all levels and with bold though realistic enthusiasm. Again, it is believed that international cooperation can best be approached through regional development. Inter-union exchange, such as that between the E.B.U. and A.B.U., is a second level of cooperation which should definitely be pursued well beyond the Conference resolution stage. Ultimately, it is not inconceivable that, despite practical problems, viable and substantive broader international exchanges might be developed. The Commission next turned attention to a third important aspect of educational broadcasting exchange, the programme segment or sequence, and the program kit. This area may hold the greatest promise for international exchange. At least three major organizations are currently manufacturing production items for insertion within locally produced programming. C.E.T.O. continues successfully to develop scripts, camera cards, production notes, 16 mm. film sequences, caption cards, still pictures, diagrams, simple animations and other visuals, brochures and teacher handbooks for distribution to newly organized broadcast units. These do-it-yourself programme kits assist beginning staffs with little time, budget and facilities to plan and produce meaningful educational programmes in a variety of basic subjects. They are widely used throughout the world, with favourable commentary.

Similarly, O.C.O.R.A. has considerable experience in developing radio kits which include scripts, magnetic tapes, and other descriptive and supportive elements. A number of such kits are currently distributed to seventeen African nations.

The Film and Television Division of the French Foreign Ministry has recently developed a series of public health films and kits for Africa. Included in a shipping case are colour films, scripts, plastic models, a medical kit, audio-visual aids and descriptive pamphlets in English and French for use both on television programmes and in audience presentations throughout the user country. The project is planned for extension to the Middle and Far East within the year.

The kit concept is not new; such organizations as A.B.C. have for years been producing radio materials for exchange and insertion. Radio and television kits are not particularly difficult to prepare, and there is considerable enthusiasm for their broadened development and use. All kit materials are not necessarily used as shipped; title cards, for example, may need translation. But kits are not designed for total usage. The more selective the user organization progressively becomes with the kit, the more advanced the local production capability. Kits are being employed prior to station activation for production crew training purposes. They are providing young producers with ideas for developing better local production counterparts.

There was widespread agreement that producing and using agencies should be encouraged to continue working with and developing production kits; further, that the more experienced broadcast agencies should extract materials and build kits from existing programme properties, as well as consider kits as they plan new programming.

Turning to a discussion of script cataloguing, the Commission noted that much could be learned from such an experienced system as the A.B.C. script library, which for the past twenty years has serviced six separate States. Delegates also concluded that central script pools should be developed. Here again, assistance and service might best come on the regional level. A bank of scripts screened from the programme schedules and booklets of a number of countries, evaluated, catalogued and promoted, with due consideration to problems of rights and clearances, could stretch limited educational broadcasting funds further and could encourage programme development, improvement and expansion in both radio and television.

The Commission found the subject of cataloguing illustrations or film sequences for television one of the most exciting prospects of the many subjects under discussion, despite the many practical problems surrounding its activation. Particular heart was taken from the E.B.U. Biology Project, where seventeen member organizations joined in a cooperative and painstaking evaluation and compiled a catalogue of some sixty specialized film sequences which contain special animation techniques or unique approaches or equipments. The task was not simple. Complete programmes on biology had to be screened, films produced by commercial companies, and films specially shot by broadcasting organizations themselves. It the film segments used word superimposition, because of language difficulties the segments had to be discarded. The exact details of copyright had to be searched out. Catalogues were difficult to compile. Yet, upon conclusion, the E.B.U. now has a potential reservoir of sixty special segments.

The Commission spent considerable time discussing Mr. Rugheimer's paper describing a method to establish a library of educational productions and sequences. The Swedish representative's proposal as an outgrowth of the Biology Project, struck a particularly responsive note with the delegates, and offers a practical plan to exploit the Biology Project. Various additional problems were identified as pertinent to the development of any central pool of programme sequences. There is considerable difficulty and expense involved in locating useable segments of quality production; restrictions must be surmounted and clearances obtained; there are staff and cost problems in extracting, duplicating and evaluating segments; programmes which include useable sequences will not always be available; the judgment of those determining the acceptability of segments may be questioned. Yet, in spite of the practical drawbacks, the potential for use of such segments is so substantial that the Commission urged immediate and deliberate development. There was consensus that the single most effective key to educational programme exchange lay here in filmed sequences. The stations, new and old, want building blocks or elements of superior quality for use within local originations. Delegates further drew from experience to arrive at these finalizations; segments have wide appeal, for they can be used in programmes dealing with every educational level; the more which can be done by a central organization and the less required of the individual station, the more successful the sequence library establishment; broadcasting organizations should be encouraged to keep international exchange in mind and secure clearances for those special production sections which clearly seem to have distribution potential; at the same time, organizations cannot be expected to incur the considerable cost of securing copyright clearance on all segments produced; library development should be on a slow and carefully limited basis, building upon existing structures and services, such as the existing pool of biology segments, and enlarging on a subject-by-subject basis; oil companies and other industrial film makers, as approached, have indicated the availability at no charge to educational television of unique and specialized footage which could form an important part of such a library.

The Commission endorsed the concept that a central reference point should be established, and discussed the various regional and international service organizations and film services which conceivably could house and operate a film pool. There was agreement that the existing E.B.U. study group headed by the President of Commission III should be encouraged to undertake immediate financial, procedural and location studies leading to the establishment of a viable segment exchange.

In a review of technical and legal problems attendant to exchange, the delegates called particular attention to the A.B.U. and O.R.T.F. papers. They received a report that the copyright law in the United States is currently undergoing a severe restructuring. American educators, while acknowledging that artists and authors should be compensated for their works, are attempting to see the new national legislation limited so that materials used in an educational context, whether broadcast or in the classroom, remain free of charge. They are attempting to secure a new statute which recognizes a fair balance between the rights of authors and educational users, stressing the public interest. U.S. copyright legislation deserves serious investigation, for it will have ramifications for all educational broadcasting and international exchange. The Commission was emphatic in its belief that this Conference should go on record as urging that, as national copyright legislations are written, especially for the developing countries, every consideration be given to educational usage, both national and international.

Delegates urged producers at the time of production to investigate negotiation of three types of rights, national, regional and worldwide, if the programme has any potential for extra-local use. This is a far wiser procedure than returning upon completion of production to negotiate — and pay exorbitantly for additional rights. It was concluded that the *sine qua non* of international cooperation must be each country's endeavow to secure at the outset of production all necessary clearances for all properties of potential extra-national use.

The large national broadcasting organizations ordinarily have budgets to accommodate such procedure, while the newer units do not. However, for some time to come the latter group will in all practicality have lesser amounts to contribute to the international scene. These countries should not use this as an excuse, but should rather severely screen productions to label the special few. The newer production agencies have valuable programme contributions to make, despite their size and newness.

The Commission concluded that the problem of duty on incoming educational radio and television programmes was serious, and urged continuing attention on several levels. The individual broadcasting organizations must continue working from within to secure favorable action from national governments. Regional broadcasting unions should continue to press the point from their responsible positions. And U.N.E.S.C.O. from its vantage point should continue to stress that countries should amend legislation so that films can be imported without paying duty. An impatience with the problems of rights and duties was evident. Since most of the delegates are programming people, rather than theorists, an urgency to put meaningful programmes on the air and see them improved permeated the discussion.

With both excitement and trepidation the Commission moved on to the problems of theme 4. The animateur Mr. Yoshida summarized the problems of distribution and transmission of educational programmes by satellite in a thought-provoking paper. Confirmed by the Commission and based upon knowledge at hand, the principal problems appear to be as follows : basic technical problems which delegates conceded must be handed with faith to the scientists and technicians; the fundamental questions of financing such large-scale ventures; the political and governmental problems surrounding such broad extra-national endeavors; and educational or pedagogical issues which arise from such activity.

To give the Commission a common base from which to develop their thinking, the E.B.U.'s technical center director presented a report on the current technical state of the art, describing the three basic types of satellites; low power point-to-point telecommunications satellites; higher power stationary distribution satellites, and direct radio and television broadcast satellites soon to be available.

There was complete accord that the theoretical stage of satellites has passed from broadcasting, that technology is far in advance of education, and that educators and educational broadcasters need urgently to retool their thinking creatively and boldly to conform to the space age.

U.N.E.S.C.O. representatives called attention to a paper from the December, 1965 meeting of experts on the use of space communications by mass media, and additional helpful information contained in the 1966 paper by the U.N.E.S.C.O. Director-General on a long-term programme for the use of space communications. Both U.N.E.S.C.O. and United Nations representatives stated their interest in and concern for the problem, and pledged fullest cooperation and support. Mr. Galvez Y Fuentes, the co-animateur, directed attention to the extensive planning of his country towards the use of satellites with the potential for substantial service to all of Mexico, Central America and the Southern United States. He introduced a satellite design expert who presented a case study and cost analysis of the Mexican satellite plan and its implications for educational improvement in that country.

Other satellite planning was reported as well. Japan has under study the utilization of an artificial satellite for domestic broadcasting purposes and international exchange. Under consideration by France is a similar launch to serve Europe, Africa and the West Indies. The Stanford University satellite study for India was reviewed, as was the Canadian proposal. Particular attention was paid to the Ford Foundation, American Broadcasting Company, A.T. & T. and C.O.M.S.A.T. satellite proposals, since United States decisions will have implications for future satellite broadcast development. Granada Television reported on a fascinating educational use of the Early Bird satellite prior to establishment of commercial service, where professors in England and at the Massachusetts Institute of Technology examined the latest computers.

The Commission explored a variety of factors and problems : satellite to ground-based stations versus satellite to school receptors; shared satellites versus exclusive broadcast instruments; interference and ground quality; language barriers; time zone changes; coordination and control of satellites and their programming; control of broadcasts into a country, copyright and other legal problems; surrendering certain national sovereignty; the danger of use for propaganda.

The Commission reaffirmed the economic advantage of satellites for vast area broadcast service, and reaffirmed the importance of the advantages of multiple channel nation-wide coverage, of immediacy and of the sharing of resources, and the ultimate educational use of satellites for data transmission, computer documentation, linking universities, surgeons and other specialists for problem solving. Delegates stressed that the potential in a country with little or no radio and television service must be considered in a somewhat different context than in a developed nation.

Technical experts assured delegates that, with the availability of multiple sound channels, simultaneous audio feeds would solve the language problem. A country such as India could concurrently instruct in all fourteen official languages. Also, by sharing services with other users, either governmental or commercial within the country or internationally, the massive capital and operational costs to educational broadcasting are vastly reduced.

The Commission directed particular attention to the problem of effective use of the satellites once they become available. Delegates urged caution lest the glamour of the « bird » and its attendant national prestige trap educational administrators into forgetting the equally important problems of designing and producing programmes of superior quality for the various channels, integrating the televised instruction within the national educational structure and curriculum, developing effective classroom teacher utilization and effective receiver maintenance procedures. Delegates also warned against blind planning towards international exchange by satellite, and urged serious study of the most effective use of this important distribution system. It would be tragic to see the satellite used internationally only to duplicate what ground-based systems and videotape exchange now accomplish. In view of the many different technical systems and standards now prevalent, the Commission saw satellite communications as an excellent opportunity to develop more uniform standards, and urged such study. A number of other conclusions were reached as well. There is a need to study and develop positive proposals for agreement between nations, and to develop pilot projects. U.N.E.S.C.O., the regional broadcasting unions and other agencies should without delay determine their roles vis-à-vis satellite communications and their clientele. There is an urgent and imperative need for educational broadcasters to begin at once to plan and work towards satellite channel space. The Commission fully supports the thesis that Education has the right to such space on behalf of the students and adults it serves, first on a shared basis and ultimately with a separate system. But Education must begin work now to see governments convinced and such reservations effected. Satellites are a reality; Education can no longer afford to assume second status. And finally, satellite communications offer one of the most effective means ever devised to increase international understanding and promote the brotherhood of man.

Conclusions of Commission III

In the light of the many experiences brought up by representatives of the various radio and television organizations and on the basis of the different working papers made available to them, the members of Commission III, meeting under the chairmanship of M. L.-P. Kammans, examined the data and the problems involved in exchanges and cooperation, as well as their possible solutions.

As a result, they consider that the following conclusions should be submitted :

Exchanges of documents.

The indispensable development of exchanges of information and documentation would be greatly facilitated by :

1. making some person or service in each organization specially responsible for receiving and analysing documentation and distributing it to the appropriate authorities;

2. systematically indexing each production in accordance with a model form, which the E.B.U. could prepare after further study;

3. centralizing under the auspices of regional radio and television organizations, « indexing-catalogues » indicating for each production available :
— the contents,
— the characteristics of the support,
— the audience,
— the conditions in which it can be used.

Exchange of personnel.

The importance of exchanges of personnel was contemplated in certain branches only, calling for a cooperation between regional broadcasting unions and international organizations :

1. the E.B.U. should be invited to publish, in an appropriate form, a directory of services and organizations throughout the world which are in a position to train educational radio and television personnel, and giving details on recruitment conditions;

2. it would be desirable that U.N.E.S.C.O. undertake :
— an analysis of world-wide experience of training on the national, regional and world-wide levels;
— a guide to training methods and content on the national level.

3. Personnel responsible for educational programmes should visit other organizations for information purposes, especially in neighbouring countries, to become acquainted with their counterparts in order to know directly the programmes they make and the solutions they have adopted.

Exchanges of programmes.

1. Considering the success of kits, organizations would be well advised to produce programme elements which are easy to make use of by virtue of their simplicity and which have some interest for other countries.

2. Radio and television organizations wishing to participate in exchanges of educational programmes should propose productions on subjects suitable for such exchanges. Some topics will be more readily accepted by other organizations if they have a universal character and if specifically local or national standpoints or interpretations are excluded : *e. g.* physical geography, natural resources, natural history...
The educational value of programmes describing the process of manufacture of products designed to meet the needs of mankind should be emphasized : *e. g.* food, clothing, housing...

3. When a broadcasting organization plans an educational programme which it believes may be of interest to other broadcasters, it should endeavour to negotiate, before the programme is broadcast, the terms for an extension of the rights involved, in order to avoid re-negotiation for, or a refusal of, the rights concerned at a later date.

4. All broadcasting organizations and others concerned should do their utmost to obtain a limited exemption for educational programmes in copyrights and perfor-

mance rights legislation, in the practices of competent professional organizations, so that programmes of an educational nature may be more widely available for international circulation, They should also take any opportunity to re-negociate similarly agreements with authors' societies and executive syndicates.

5. The series of educational films on different Asian countries, which the A.B.U. intends to make for schools, and a second series of programmes on the geography of the European countries to be produced within the framework of the E.B.U., were carefully studied by the Commission. The latter considers that these documents should be exchanged in accordance with the wish already expressed in Tokyo and that the basis of this exchange could be widened if other regional unions were invited to participate.

6. In order to facilitate international exchange through the bringing together of available material, the Commission approves the recommendations proposed in the working paper under the heading « A method to establish a library of educational productions and sequences ». As a first step towards the establishment of such a library, the E.B.U. is requested :

— to study the proposal to establish a library of biology sequences in terms of feasibility, cost and method of administration,

— to investigate the conditions on which existing film libraries might undertake to provide the services desired,

— to communicate its conclusions to the other regional broadcasting unions for their consideration and participation.

Co-productions.

Considering that co-productions are economically useful in that they spread out production costs and facilitate a wider utilization, it seems advisable to submit the following conclusions :

1. When an organization decides to produce a programme or a series to meet its own needs, it would be well advised to make its project known to other organizations before starting on it. These other organizations could then say whether they would be prepared to broadcast the programme as originally planned, or modified as a result of their observations, or whether they would like to become co-producers.

2. Organizations in the same region would be well advised to consult together in order to distribute the production of educational programmes and to adopt a method of presentation in accordance with their common needs.

3. A marginal form of co-production could be established with advantage between two stations.

For example, this could take the form of loans of stage property, sets and costumes already used for an educational or non-educational programme.

4. Broadcasting organizations in both developing and developed countries are urged to encourage their producers to undertake productions with each other for their mutual benefit, particularly in the wide field of adult education.

Satellites.

While realizing the extreme complexity of the new problems arising from the possibility of using space satellites for the transmission of educational programmes, the Commission approved various findings :

1. It is for the governments to set aside frequency bands for the transmission of educational programmes by satellites.

2. International organizations which have resources for this must undertake or promote the studies urgently required for placing space broadcasting in the service of education.

3. Broadcasting bodies should start right now preparing staff to use the new techniques for transmission and reception by space satellites.

4. Educationists must undertake research on the conditions of the production and reception of programmes :

a. The quality of the television picture required for educational effectiveness must be determined by research, since the cost-price will depend on the system of ground-space-ground transmission, selected precisely on the basis of the quality required for the picture.

b. The use of educational programmes in space presupposes educational research dealing with the reception of the audio-visual message, account being taken of the extension of the pictures beyond their cultural region.

c. Research must be undertaken into the autonomous processing of the sound content of the audio-visual educational message. For satellites make it possible to broadcast simultaneously several different commentaries on the same picture, thus leaving the users the possibility of selecting the one which corresponds to their linguistic knowledge.

d. Stocks must be built up of programmes suitable for different uses by virtue of their high visual content. This would allow the share of language to be reduced and would facilitate the task of teachers in countries where the educational level is not high enough.

5. The first mission of broadcasting by satellite is to serve the education and culture of peoples, especially those in the developing countries where there are urgent and specific needs to be met.

6. To serve as a basis for research a series of pilot projects covering all aspects (education, information and entertainment) of programmes broadcast by satellites on an international scale should be undertaken immediately by the regional unions. Reports on the findings obtained should be submitted to all the regional unions, governments and international organizations.

7. It is important to carry out research and experiments of an economic nature in order to appraise the profitability of the systems for broadcasting by satellite.

8. It would be to the advantage of U.N.E.S.C.O. and other international organizations interested in the use of space telecommunications for educational purposes to take inspiration from the work of this Conference when they draw up their plans of activities. Similarly, it would be to the advantage of broadcasting bodies to know the findings of the studies undertaken by these organizations and the resources available to them in this field.

9. Recognizing that the rapid development of distribution and broadcasting satellites makes it more urgent for broadcasting organizations throughout the world to make known their views on the use of outer space for telecommunications by satellites before international agreements are drawn up, and realizing that collective representations carry much more weight than those made individually, the members of the Commission recommend that U.N.E.S.C.O. should be asked to invite the representatives of the North American continent to meet as soon as possible representatives of the regional broadcasting unions and the appropriate with a view to discussing the use of satellites for broadcasting, and, in particular, for educational broadcasting purposes.

10. Considering the important part radio and television can and must play in promoting tolerance and international understanding, educationists should design and produce their programmes in this spirit and they should include in their educational schemes programmes devoted to a knowledge of the United Nations and its specialized agencies.

Final Report of Commission IV

Tuesday, March 21st, 1967

Presented by Messrs. WILBUR SCHRAMM
Director — Institute for Communications Research — Stanford University — United States of America

FRED B. RAINSBERRY
Supervisor of school broadcasts and youth programming
Société Radio Canada/Canadian Broadcasting Corporation — Canada

Results of the work of the Terminology Working-Group.

Introduction

Introduction.

From the beginning of the sessions of Commission IV it becomes clear that a great deal of important research remained to be done on educational television. Whereas this major body of work covered a wide range of educational research, only a small part of this research already done has so far been applied to the improvement of broadcasting.

Recognizing this state of affairs, the Commission spent a crowded eight days of meetings exploring the needs and uses of research in broadcasting, the ways to make research useful and usable to broadcasters, and some present findings that might be applied. In addition to meetings of the full Commission, a working group prepared a report on the requirements for exchanging and disseminating research results more efficiently, another group studied some of the problems of cooperative research between countries, and a third group, which had begun its work under the auspices of the Organizing Comittee before the Conference began, worked on some of the problems of terminology which make it difficult to share research results between researchers of different countries and between researchers and broadcasters.

Report of the Working Group on Terminology.

The Working Group chaired by Mr. Wedell (which complete report is on p. 501) found that there were two problems underlying questions of terminology :

— *The method of analysis* of the responsibilities common to the three groups ot specialists brought together by the Conference : educationists, radio and television professionals, administrative personnel; there follows then the question of defining the problems involved.

— *The order of priority* of the principal terms referring to these problems and the *definition of their content.*

1. The Working Group assumed that the three fields — education, radio and television, management — were sufficiently well known not to need redefinition. To offer redefinitions would, in any case, be outside the terms of reference and the practical possibilities of the Conference. Nevertheless, a list of the commonest terms used in the three specialist fields was revised by the Working Group for the purpose of establishing French/English equivalents. Beyond this, the Working Group fell back on the general meanings given to technical terms within the three specializations concerned.

2. The Working Group then concentrated on the terms, which were debatable in so far as most of the problems were new, arising as they did from the encounter of at least three specializations. The Working Group recognized the need for a schematic breakdown as a perequisite to the terminology problem. Only in terms of such a matrix would it be possible to express the function of each term or the relationship between any two or more of them.

3. The few *key expressions* selected for definition were chosen mainly by way of example. The Working Group considered that the work would need to be taken further at the international level by one of the means outlined by Commission IV's other Working Group (Lefranc), but that in order to do it properly, the research workers would need to have at their disposal a general method proposed by Commission IV for the approval of the Conference.

Report of the Working Group on the publication of research reports

The working group chaired by Robert Lefranc issued a report, the text of which was discussed in Commission.

The final text, established by Mrs. Helen Coppen, will be found below.

A *Type and style of published information* could take the form of Bibliography, annotated bibliography, abstracts, or collated studies. These materials could be published annually or occasionaly and the responsibilitey for their production could be devolved upon research workers or popularizers for the lay public. It was agreed that :

1. An *abstracting service* is needed. The abstracts would constitute the basics from which a number of different styles of publication could be compiled. The style of the abstract should include the following items. Title, author, source and date of the report; purpose, procedure, results and conclusions. The total should amount to between 200 and 250 words. Before finalizing the layout, the possibility of making the compilation of information compatible with that of any major storage and retrieval project, should be explored.

2. The abstracts should be published *annually* in book-form. In addition, syntheses of particular topics should be published periodically to *collate the findings* in some field of interest to particular groups such as administrators, producers of programmes, users of programmes (for example classroom teachers or organizers of literacy classes).

3. The role of the « disseminator » is crucial. He is the person who will prepare the collated studies which should be written in such a way that guide lines for action become apparent. A university lecturer in a particular field might be an appropriate choice provided the briefing emphasized the practical aspect of the work and the recommendations for action.

B. *The basis of selection* raises questions of the criteria for determining the validity of a piece of research and the availability of the original written report which may be in mimeographed form on the shelves of a university library. It was agreed that :

4. The eight criteria suggested by the Council of Europe Advisory Committee on the survey of Research into Audio-visual Aids in Europe could be the basis for selecting the abstracts referred to under.

5. All material of known reports should be abstracted, even when not generally accessible. It is hoped that in this way pressure will be brought to bear on libraries to make copies available to research workers at least on micro cards.

C. *Limitation of the field* raises the problem of whether or not to include abstracts of major studies in other, related fields of educational advance, such as learning theory or studies of the intellectual development of children. It was agreed that :

6. The field should be limited to research reports on educational radio and television and those aspects of non-educational radio and television as have a bearing upon education. To these should be added abstracts of research into those aspects of audio and visual means of communication that have relevance for the design and use of radio and television programmes.

D. *An inventory of bibliographies* and research reports already published in various parts of the world cannot be prepared without considerable, effort and such labours are beyond the scope of this Working Party. It is suggested that :

7. One or two persons should be commissioned in the near future to prepare a list of bibliographies published to date (March 1967); such as those prepared by the Council of Europe or those of the International Central Institute for Youth and Educational Television, the Stanford Institute for Communication Research and the Centre audio-visuel de Saint-Cloud.

E. *Future developments* will be mainly concerned with collecting and disseminating information about research to four different categories of people concerned with educational radio and television, namely research workers, administrators, programme designers and users of programmes.

To that end it was recommended that appropriate measures be taken as soon as possible to coordinate work going on in many countries and to undertake the following tasks :

a. Establish contact with existing qualified centres already undertaking such work.

b. Arrange for compilation of inventories of bibliographies on research.

c. Set up guidelines for abstractors, prepare a list of criteria for selection of material, make recommendations regarding the nature and style of publications of abstracts and of collated studies.

d. Encourage existing qualified centres to publish along the lines laid down in (*c*), each one for a given linguistic and cultural area.

e. Commission the publication of syntheses or collated studies to meet the needs of particular groups, especially those not directly concerned with research.

Conclusion. The Working Party on the publication of information on research believes that the European Broadcasting Union should undertake the coordination of annual publication of volumes of abstracts produced by several major existing specialized centres. This could be accomplished through the agency of a standing committee which should itself periodically publish collated studies, to meet the needs of particular groups of persons concerned with the design and use of radio and television programmes.

Pedagogic Application for Research

1. *What important trends in research and evolution were identified during the Third Conference?*

First, there is more interest than in previous years in research and evaluation generally. Contrary to expectation, Commission IV was one of the larger Commissions, averaging between 60 and 100 in attendance. The international representatives of educational broadcasting are clearly more concerned with these matters than in previous years.

Second, this interest has spread beyond the industrialized countries which have been the traditional home of research, to the developing countries as well. Many of the members of Commission IV were from developing regions, and a number of careful and important research projects were reported by them.

Third, there is a markedly greater interest in and greater use of rigorous, systematic methods for developing and evaluating instructional broadcasts. Much of the research discussed in Commission IV was in the form of controlled experiments to measure the change brought about by instructional broadcasts, careful analyses of programme content, and well-planned surveys to measure the characteristics of the broadcast audience. In other words, the methods and lessons of the behavioural sciences have been adopted to a greater degree than formerly for the study of educational broadcasting.

2. *What research is being done in educational radio and television?*

It was noted in Commission IV that there is now a considerable library of research on educational radio and television. A book of abstracts from the United States presented to the Conference included 350 studies completed between 1950 and 1964. Abstract series from France and Germany listed several hundred more. In addition, smaller but still significant numbers were reported from Asian, Latin American and African countries. Among these three latter regions, Japan in particular has produced a number of sophisticated studies.

The most common purpose of these studies has been evaluation of programmes or courses. Delegates reported a wide variety of forms of evaluation, the detailed specification of teaching goals in terms of student behaviour which the instruction is supposed to develop; the revision of prototype programmes on the basis of evidence from trials with « pilot » groups — questionnaires to elicit teacher opinion of broadcasts — tests of student opinion — observation of classroom behaviour — measurements of student learning from the broadcasts, by means of before and after studies — measurement of attitude changes, behaviour changes, and other results attributed to broadcasts, including changes other than what might be called « classroom » results.

Increasingly, researchers in this field are beginning to examine the dynamics of programme effectiveness. In some cases, this takes the form of detailed analysis of programme content to identify changes which may improve the effects. Considerable interest has been aroused by recent studies of methods for obtaining increased student participation in learning activities during a broadcast and of methods for instructing students. Work is also being done, for example, to find ways of utilizing the visual information channel of television and to make it serve more directly in the development of student comprehension, etc. Studies in all these areas were reported to the Commission.

Audience surveys continue to be popular and useful in estimating the major characteristics of the broadcast audience, so as to guide the making of programmes for the audience and increase our knowledge of the ways in which audience characteristics relate to programme characteristics. The efficiency of these survey methods continues to improve.

The Chairman of Commission IV noted that although a great deal of important research still needed to be done on educational broadcasting, a great deal more had been done than had ever been applied to improve broadcasting.

Perhaps no more than one study in 10 or 20 had been directly useful to an educational broadcast. Part of this lag was due to inaccessibility of the data, part of it to the way the study was designed, and part of it to the difficulty most broadcasters have in reading and applying research reports. The Commission spent considerable time on the problem of how to make research on educational broadcasting more widely useful.

3. ***What steps must be taken to make the products of research useful to educational practitioners and producers? Where does the research worker fit into the production group? What are his roles and relationships?***

Effective communication between the producer of programs for radio and television and the research worker is essential if the programs are to be of significant value for the teacher and the student in the classroom. The producer as an artist is naturally enthusiastic about his work. While he almost always wants criticism, he also wants support for his endeavour. He gropes for recognition and understanding from his audience but tends to rely on personal opinions rather than on some more systematic kind of evidence. He is inclined to discount criticism from anyone who does not understand his craft. If his aims and objectives in an educational broadcast are not clearly objectified in his mind, he will unconsciously use the medium to persuade his audience by his skill rather than to educate or to instruct. As an artist, the producer is intuitive in his perception of his goals, seeing his production as a unified whole rather than as a representation of specific pedagogical aims.

The research worker is essentially an empirical scientist. His objective is to define as carefully as possible the aim of the program, and to discover whether or not the program achieved its specific academic or pedagogical purpose. By a carefully developed plan, the research worker examines the environment in which the broadcast is received and the materials used by the teacher to prepare his students for the follow-up after the broadcast. His approach is analytical, and he aims to set limits on the experiment in order to arrive at the most effective quantitative estimates. He discounts personal opinions from letters, or verbal exchanges, because such judgments are often too subjective. He places the producer's aims under analytical inspection, and strives for empirical evidence to support these aims. The research work aims to achieve an empirical evaluation of the program measured against the intended pedagogical goals.

To achieve better communication between producers and research workers, it is necessary for the research worker to be a member of the production team from the first stages of planning. At this stage, the educator, the producer, the subject matter specialist, and the research worker can define their goals. Here the producer can achieve some appreciation for learning theory, and for clearly defined goals. The educator and subject matter specialist will achieve some appreciation for the techniques of presentation in radio or television, and arrive at a deeper understanding of the adjustments necessary in selection and organization of content if the educational purpose is to be achieved in another medium than the classroom. Throughout this process, the research worker would have two roles to play. He is the catalyst in the process of defining the members of the production team; he is the builder of a research model which will give the production team the necessary information they will finally have about the programme.

With this kind of basic cooperation, the producer learns how to bring his own intuitive judgment and artistic method under a more careful kind of analysis. The educator can assess the validity of his use of pedagogy in a more objective manner. The research worker comes to a fuller awareness of the techniques of production and pedagogy which are being employed in the presentation of the program. His assessments will be more profound when he understands the creative and pedagogical aims of the teachers and producers of the programme.

With this kind of mutual understanding and interaction, the research worker can modify his language so as to be understood by his production and educational colleagues without compromising his systematic communication. The dialogue helps specialist groups within the production team to understand the research language, the symbols and the gestures which each uses in his respective modes of communication.

In conclusion, it is the clear understanding of the mutual aims of producer, teacher, and research worker which will make for the best kind of educational broadcast and the most effective research project.

4. *What steps must be taken to make the products of research more useful to educational practitioners?*

The Commission specified several kinds of action it felt would be useful :

A. *Steps to improve the scientific quality and validity of research* :

a. Continuing efforts toward the further improvement of research techniques, including better measures of instructional outcomes, better measures of retention of knowledge and understanding as well as better measures of motivation, interest, and attitude.

b. Better training of research scientists and technicians so that the best available methods are more widely used and more skilfully employed.

c. Statement and enforcement of standards for the technical quality of research similar, for example, to those proposed for the evaluation of programmed instruction materials by the Joint Committee of the American Psychological Association and the National Education Association.

B. *Steps to improve the practical relevance of research :*

Much greater emphasis could usefully be put on specific product-testing studies for assessment and improvement of specific teaching programs. There should also be basic research to increase our understanding of fundamental instructional variables. To finance such research may require more cooperative efforts among organizations and nations, so as to provide a broader base of support and utilization of fewer duplicating programs, but each one of high quality. To improve the efficiency of basic research, more frequent seminars and conferences among research workers are needed, in order that the experience of past research can be better utilized and that new research efforts may be more sharply focused on the most critical problems instead of dispersing research efforts in lesswell focused efforts.

C. *Steps to improve the communication of research data to producers.*

In this respect it will prove particularly useful to incorporate research personnel into production teams, as recommended elsewhere herein. The development of more persons to play the « middle man » role between broadcast-educators and researchers will also be useful in interpreting the needs of the former to the latter, and the findings of the latter to the former.

5. *Is it practical to improve broadcasts through the application of research methods?*

Yes, in two main ways : First, by applied, immediately practical research in the form of product-testing, tryout, and revision — as detailed in question 6. Second, through the longer-range contributions of more basic research, which can make an ultimately practical contribution by reducing the amount of trial-and-error or guesswork necessary to develop an educationally effective program. This suggested basic research would consist of testing the validity of proposed *rules* or principles of program construction and use, so as to make available a body of principles that have actually been validated through a number of well-controlled scientific experiments, and thus make available a tested guide for the producer in choosing among available alternatives — when new programs are being designed and produced.

It should be pointed out that basic research of this kind, while it is ultimately of great practical importance, is a slow, lengthy business that cannot produce quick, sure results on demand. While the fund of scientific knowledge is being built up gradually by basic research, practical methods of using research data based on student test responses can be employed to provide immediately useful answers to questions raised in the designing and making of programs. The use of such immediately practical research could be widely extended, and the most rigorous methods of experimental testing now available should be employed.

6. *Can the principles of programmed learning be used to make more effective instructional programs?*

Yes, definitely, and in two main ways. First, in designing appropriate *supplementary materials*, in programmed form, to augment the broadcast. Second, by applying the *basic* concepts of programmed learning to the development and improvement of the broadcasts themselves. (It is important to distinguish these basic concepts of programmed learning from some narrower, more specific aspects of programmed learning which are peculiarly applicable to individually paced kinds of programs such as those presented by teaching machines.)

Several ways of applying programmed learning concepts were noted by the Commission :

a. *For empirical tryout and revision.* The most powerful and important of these concepts consists of the application of empirical methods to the iterative tryout and improvement of broadcasts, by testing part or all of the broadcast in its initial form on a sample of students. In this kind of procedure the students are tested to ascertain the respects in which the program, in its initial form, fulfils its specific and pre-defined instructional aims, and the respects in which it fails to do so. These data point out the strong and weak points of the program that are actually demonstrable. Thus they are the best possible basis for determining those aspects of the broadcast program which require revision and strengthening.

The data from such tryouts may also be useful in showing what kinds of supplementary materials (*e.g.*, exercises, work books, individual programmed instruction, etc.) may be desirable for use in connection with the program.

b. *For arriving at behaviourally specified objectives.* The use of empirical methods for revising and improving a program requires, of course, that the educational aims of the program should first be stated in such detail as to specify the test behaviour which will be taken as the criterion for deciding where the aims have been realized and where not. Doing this is of great importance, since only in this way can one obtain definitive evidence of the real success of any educational program in contributing to defined educational objectives.

c. *For encouraging active and appropriate student response.* An additional way of incorporating certain specific features of programmed learning techniques into educational television or radio teaching is to make provision for active participation of the students through appropriate responses suitably guided and confirmed or corrected as needed during the broadcast itself. Many experiments on such techniques have been reported.

7. *Can research contribute to the effectiveness of visualization in educational broadcasts or films?*

Many films were exhibited to the Commission in which brilliantly original solutions had been arrived at for visualizing concepts and abstract ideas. These solutions (which cannot be described in a verbal report but will be alluded to in the animateur's report of the session) were arrived at by artistic insight and aesthetic theory. And, of course, there is no substitute in any research activity for what the truly creative artist can contribute to the preparation of educational programs or films.

However, the Commission discussed the likelihood of being able to test and advance such aesthetic principles and creative solutions by means of behavioural science. Two viewpoints were advanced. On the one hand, some members felt that the mental processes involved are so complex that they can probably never be completely understood; therefore, research may be mostly a waste of time. On the other hand, the researchers in the group said that because one can never learn everything is no reason to stay out of school; because one can never fully understand the workings of the human body is no reason to abandon medical research; the purpose of research is to learn to make better predictions; and this has been accomplished both in medicine and in other complex research tasks. Therefore, considerable time was given to discussing how scientific research might be used to aid and advance the creative efforts which are required to solve such problems as visualization.

It was suggested that improved tests would contribute usefully to assessing the worth of different creative techniques. Some special projects were described in which methods other than the usual paper and pencil tests were used for measurement — for example, observation, task-solution, and photography of faces and movements during the program. It was agreed that continued study of such problems in an effort to make behavioural science more useful to the program-maker would be highly desirable.

8. *What might research contribute to building motivation and participation into educational programmes and films?*

In this case, as in that of visualization, the Commission viewed numerous examples in which creative programme-makers had built motivational devices into their products, and had provided cues to encourage student participation, overt or covert, in the learning process. Some of these are mentioned in the text of the rapporteur.

The question was raised whether testing of results and pre-testing of programmes would not be useful in evaluating such creative techniques, and the conclusion was that it would indeed be, if researchers and creators could come to a clear and mutual understanding of aims. The intent would not be to substitute the researcher for the creative programme-maker, which is manifestly infeasible, but rather to give the former a check on the latter's insights and intuitions, and a better idea of how different types of students react to them.

Impressive data were mentioned on the useful effect of adding motivational devices and giving the student an opportunity to participate actively rather than receiving passively.

9. *Can instructional television affect the output rate in adult classes?*

The power of television to motivate students has been frequently cited, both in terms of improving attention in the classroom and maintaining attendance in adult classes. One especially interesting report was made to the Commission on the use of television for adult literacy classes in Zambia and the Congo. Here the classes that were using television had very much lower rates of dropout than similar classes without television, and consequently a much higher proportion of the original registrants learned to read and write.

The representatives of both Samoa and Niger, speaking of their experiments with school television, likewise mentioned the usefulness of the television in motivating school attendance, attention, and interest.

10. *What are the effects of instructional television on schools in remote areas?*

Much has been made of the effectiveness of television in « bringing the outside world » to remote schools and villages. The Governor of Samoa stressed this effect in his report on Samoan television. An interesting controlled experiment was reported to Commission IV by a delegate from Japan, in which television was introduced into some of the schools in remote and isolated Japanese villages, and results were compared with similar schools that did not have television. The differences were truly striking. Now only did the television schools progress significantly more than the others in knowledge of science and social studies (subjects which children in remote areas seldom experienced in their daily life), but also the measured intelligence scores of the children taught in part by television increased more than those of others. Perhaps the most notable result of all was that the scores of children in the lower-intelligence group increased significantly more in the television schools than in the others — suggesting that television may help to equalize opportunities for growth and bring out latent abilities in disadvantaged children.

11. *What is being learned about the effect of environment on children's learning from educational radio and television?*

A great deal of evidence was presented to the Conference that the radio and television programmes a child receives outside school, and indeed his entire home and social environment, have much to do with the knowledge he brings to school and with the way he is able to use school broadcasts. Obviously, the educational broadcaster needs to know as much as possible about these relationships. They are not fully understood as yet, though information is being amassed, thanks to studies of what is learnt by children of different backgrounds, and from special interview and observation studies of children. One example of this latter kind of study was presented to the Commission, as was also the special study under way in Niger to ascertain the reaction of children in that country to being taught with television (which is unfamiliar to them) in a language they have not previously learned to speak.

There seemed to be two ways in which continuing work in this area might be specially profitable to broadcasters. First, of course, every effort, should be made, through careful studies, to add to the presently existing general principles of relationship between environment and learning from educational broadcasts, so that these do not have to be determined over again for every course and every group of children. In the second place, efforts might profitably be directed toward making better educational use of the broadcasts a child receives outside school. A number of ways were suggested in which some of these might be woven into his classroom experience and best utilized for his general intellectual improvement. The possibilities of this " Parallel school " as one participant in the Commission called it, are appealing.

Conclusions of Commission IV

1. The Paris Conference, following the Tokyo and Rome Conferences, has shown the great value of international meetings on the subject of educational radio and television and the steadily expanding range of their impact.

2. The purpose of such conferences is to compare results and see what are the right questions to ask next. Interim meetings between conferences should be envisaged, either for the purpose of putting certain results into shape, or for that of putting fresh information to use.

3. Small meetings for limited purposes, possibly confined to a limited geographical area, should therefore be held at suitable intervals for the purpose of putting into effect various findings of the present Conference.

4. In view of the problems brought to light by the four Commissions and taking into account the order of priority of the problems, the various professional bodies and national education authorities should make known their willingness to join in a given form of international cooperation on particular matters in which they consider themselves best qualified.

5. Several international organizations have been good enough to support the initiative taken by the E.B.U. by providing expert assistance and contributing in their particular fields. It is highly desirable that this support be maintained and that such contributions be extended as the specific nature of any particular project may require.

6. The most varied forms of cooperation should be found with the help of the E.B.U. and of the other regional Broadcasting Unions as well as of the competent international organizations like U.N.E.S.C.O. and the International Institute for Educational Planning, which have been ready to co-operate in the work of the Conference, and with the eventual support of interested research foundations.

Recommendations of Commission IV

1. We recommend that the E.B.U. and the researchers among its members give special attention to the problem of communicating research information in forms usable by broadcasters. This is not at all the same as the problem of communicating it to researchers, and requires not only a vocabulary that is understandable by researchers, but also a structuring of problems in ways that are related to policy and programme decisions commonly made by broadcasters. How to obtain and disseminate material of this kind, and how to prepare and encourage people able to bridge the gap between researchers and practitioners, are important concerns of an organization like the E.B.U. Progress in this enterprise should be reviewed at the next Conference. Along these lines, we recommend that appropriate steps be taken, to coordinate work going on in many countries and to undertake the following tasks :

a. Existing qualified centres already doing such work, should associate themselves together. Through such a body or another appropriate one later, arrangements should be made for coordination and exchange of their work.

b. Arrange for compilation of inventories of bibliographies on research.

c. Set up guidelines for abstractors, prepare a list of criteria for selection of material, recommendations regarding the nature and style of publications of abstracts and of collated studies.

d. Publications along the lines laid down in *c* should be prepared, each one for a given linguistic and cultural area.

e. Publication of syntheses or collated studies to meet the needs of particular groups especially those not directly concerned with research.

2. We recommend that the E.B.U., if possible, and other organizations if the E.B.U. cannot go ahead with the project, investigate the possibility of issuing a

year-book or a bi-annual publication, to report on the state and progress of educational broadcasting. One possible pattern of contents for such a book would be : (1) a set of brief reports (on the model of the reports sent by each country to this Conference, but shorter) on the organization, financing, programming, and audiences of educational broadcasting in different countries; (2) one or two case studies (on the model of the Niger or Samoa studies) of especially noteworthy new developments in educational television and radio; and (3) one or more articles summing up — in language intended for practitioners, not researchers — what research has to say at present about some problems of practical importance to broadcasters.

3. We recommend that the vocabulary of broadcasting term equivalents in English and French, when revised and checked, be printed and circulated by the E.B.U. A German version of this vocabulary has been prepared. We recommend also that the list be extended to other languages.

We forward the attached report of our Working Group on Terminology to the Conference and the E.B.U. with the recommendation that it be made the subject of further work and development, and that it be made available, when ready, to guide the preparation of papers for the next Conference.

4. We recommend to broadcasting organizations that they take seriously the obligation to conduct research in order to improve the effectiveness of their educational programmes. Evidence has been presented at this Conference of the beneficial effect of adding a research worker to the production team, in order to carry out pre-tests, to obtain information about the audience to be reached, to evaluate the effectiveness of the product, and to ensure that producers are aware of research findings that might bear on production problems. Evidence has also been presented of the possibility of studying such difficult matters as the visualization of abstract concepts and the building of motivational devices into films and broadcasts. We feel that research along these lines should be encouraged, and that the results should be shared as widely as possible. We recommend particularly that an attempt be made to define in terms of content the most crucial areas of research so that, during the next three years, research efforts in various countries can be channelled and coordinated and not conducted in isolation.

5. We recommend to broadcasters that they consider the possibility of adapting some of the principles of programmed instruction to the making of educational programmes and films. Some of these useful principles include :

a. the detailed specification of behavioural objectives intended to be accomplished by the programme;

b. the empirical tryout of programmes followed by revision of test data, and

c. provision for frequent and appropriate student response during the programme, accompanied by confirmation or correction of these responses. Evidence was presented to Commission IV that such procedures as these were feasible and effective, although, of course, they lengthen the time required for making programmes.

6. We recommend that steps be taken to encourage and bring into being a series of carefully conceived, cooperative, cross-cultural experiments in learning from broadcast materials. In part, the basis for this recommendation is that there are a number of findings or favoured hypotheses which have, at best, been tested only in one locale or culture. The generalizability of such principles to other locales and cultures is thus open to question. It is suggested also that experiments should be conducted to study, in detail, the effects of particular materials as these are adapted, then employed and tested in several very different cultures.

What is to be stressed is that cooperative work involving a number of regions of the world may now be considered seriously and it is time to proceed with the development of cooperative studies which address themselves to questions of common concern.

7. We recommend that educational *radio* — which is likely to be the only broadcast medium of some developing countries, and which performs efficiently and cheaply many educational tasks — should be given more emphasis in the next Conference. Specifically, we suggest that consideration be given to creating a Commission on Educational Radio at the next Conference, and to encouraging research on the economics and effects of educational radio, which can be reported to the Conference.

Report of the Working Group on Terminology

Preparatory note.

The Working Group presided over by Professor Wedell, found that there were two problems underlying questions of terminology;

— *The method of analysis* of the responsibilities common to the three groups of specialists brought together by the Conference : educationists, radio and television professionals, administrative personnel; there follows then the question of defining the problems involved.

— *The order of priority* of the principal terms referring to these problems and the *definition of their content.*

1. The Working Group assumed that the three fields — education, radio and television, management — were sufficiently well known not to need redefinition. To offer redefinitions would, in any case, be outside the terms of reference and the practical possibilities of the Conference. Nevertheless, a list of the commonest terms used in the three specialist fields was revised by the Working Group for the purpose of establishing French/English equivalents. Beyond this, the Working Group fell back on the general meanings given to technical terms within the three specializations concerned.

2. The Working Group then concentrated on the terms, which were debatable in so far as most of the problems were new, arising as they did from the encounter of at least three specializations. The Working Group recognized the need for a schematic breakdown as a prerequisite to the terminology problem. Only in terms of such a matrix would it be possible to express the function of each term or the relationship between any two or more of them.

3. The few *key expressions* selected for definition were chosen mainly by way of example. The Working Group considered that the work would need to be taken further at the international level by one of the means outlined by Commission IV's

other Working Group (Lefranc), but that in order to do it properly, the research workers would need to have at their disposal a general method proposed by Commission IV for the approval of the Conference.

1. *Terms of reference of the Working Group.*

" A working party on terminology ', set up within the framework of Commission IV, will therefore be made responsible for comparing this preliminary draft and the outline analysis it implies with the various elements that Commissions I and II may provide, in order to decide as quickly as possible on the terminology that the Conference will use. "

These terms of reference imply :

- examining the preliminary draft consisting of :
  - the vocabulary of 300 words or expressions contained in the document forwarded to Conference members by the General Secretariat, and
  - the glossary of key-terms submitted as a preliminary draft by the French Delegation;
- examining the context or elements contributed by Commissions I and II :
- the advisability of bringing the classification into line with that used in the Gardin report and drawing on it in any way that may be useful in achieving the objectives of Commissions III and IV in regard to the circulation of information.

2. *The vocabulary.*

The vocabulary of words and expressions in general use in the technical and production branches was examined by the Working Group and reduced to terms in specifically professional use. After revision and correction it will be submitted by the Working Group to Commission IV for final approval.

It seemed necessary to limit the glossary of key-terms to those essential terms which facilitate formulation of the question of educational radio and television in general, which is the subject of the Conference as a whole. It would then be for the four Commissions to define more precisely the terms relevant to the problems which were their particular concern. It is essential, however, that certain general terms should not be used with different meanings by the different Commissions. The Working Group therefore considered that before any study was undertaken it would be necessary to define :

— the principles upon which a general analysis of educational radio and television could be based ;

— the problems specifically concerning each of the four Commissions as defined in their terms of reference and arising from their initial discussions.

These two aspects will be examined in paragraphs 3 and 4.

3. *Basic analysis of the outline of Conference objectives.*

In line with the general method of information processing mentioned in the Gardin report, it will be recognized that the general aim of the Conference covers those FUNCTIONS and RELATIONSHIPS involved in the COMMUNICATION process which constituted the ACTION performed by educational radio and television.

In other words, the GENERAL OUTLINE is the result of a dual syntactical analysis of which the terms are :

SUBJECT — ACTION (verb) — OBJECT

(predicates) (predicates)

CIRCUMSTANCES AIMS

WHERE WHEN HOW

This takes the form of a general proposition such as

WHO SAYS WHAT TO WHOM

WHERE WHEN HOW WHY?

Assuming that the semantic content in reltion to the practices of the different professions is known, we now have to make two types of analysis :

— vertical analysis of the terms according to their FUNCTIONS in the sentence (" unitary " operator);

— horizontal analysis of binary or more complicated expressions (syntagma) indicating the logical relations or connexions between " operators ", *e.g.* a teacher, a producer, a manager, a public are defined by their FUNCTION, whereas the SITUATION indicates a relation between public and circumstances and the OBJECTIVE, a relation between a teaching activity and the public concerned.

The general shape of the QUESTION, more or less implicitly agreed on by the Conference, immediately emerges.

1° What is the OBJECT of study of the Conference? In essence it is the study of a relationship between teaching, in the traditional sense of the word (who says what to whom?) and the novel circumstances created by the introduction of audio-visual means of communication.

It can therefore be assumed that all the operators or operations of teaching and telecommunications respectively are known, but that it is intended to study all the syntagma resulting from the confrontation of the two fields.

2° In view of the large number of possible syntagma, it will be necessary to have a rough TYPOLOGICAL classification, and we therefore submit to the Conference a GRID, like that suggested by Professor Schramm, which provides a comprehensive structure capable of accommodating the principal types of relationship. We present it in the form of a choice of opposing criteria in the functional teaching-telecommunications relationship. (This is necessarily arbitary, but appears to us to be based on common sense.)

— Will the new situation be a substitute for the old (palliative educational radio and television), or will it only complement or enrich it (complementary educational radio and television)?

— Are the consumers the same as before (schoolchildren) or has the scope been extended to the general public by telecommunications?

The meeting-point of these two criteria provides a general, rough and ready grid, open to improvement, but by definition covering all the possible alternatives. We shall call it the " Schramm Grid " because it is the result of discussion of a document presented by the Chairman of Commission IV. The grid can be summarised as follows :

	Palliative action	Complementary action
Overlapping action	Palliative Educational Radio and Television (type 2)	Complementary Educational Radio and Television (type 1)
Extending action	Basic Educational Radio and Television (type 3)	Lifelong Educational Radio and Television (type 4)

3° Fields of activity or responsibility. The fundamental syntactical relationship defines fairly accurately the field of study of Commission I : namely, the *communication of the teaching message* in regard both to form and to content.

The other three Commissions each approach the same subject (the communication) by asking a standard question which can be expressed in parallel formulae :

	MANAGES			FOR	
WHO	EXCHANGES	WHAT	WHERE	WITH	WHOM?
	RESEARCHES			TO	

Thus the Commissions each study the FUNCTIONS of and RELATIONS of these various terms, which have a different meaning in each Commission according to the particular type of activity they are discussing (management, exchanges, research).

4. *Particular problems of the four Commissions.*

COMMISSION I

In reply to a question from the Working Group the Chairman of Commission I said that his Commission had encountered no terminological difficulties.

We may therefore consider that the text of the terms of reference is sufficiently clear when it defines the following words : (teaching) SITUATIONS and METHODS (I,1), PROGRAMME and PRODUCTION, PROCEDURE (of production) (I,2) CHARACTERISTICS and TRAINING of the staff who perform the various functions of SCHEDULING, PRODUCTION, DIRECTION, and USE (I,3).

(In this connection reference may be made to the French Delegation's comments on the glossary of key-terms.)

COMMISSION II

A new contribution has been made by Commission II in the form of a " Working document on objectives " which seems to imply :

a. a TYPOLOGY developing the " SCHRAMM GRID " of the four basic types of educational radio and television;

b. a definition of the term OBJECTIVE as a *two-way relationship* between teaching and the public concerned;

c. implications which in fact are ambiguous (" qualitative " or " quantitative "). It is difficult to judge whether they refer to a typology (layout) of the kinds of educational radio and television or to evaluation of the objectives. (In our opinion, they probably refer to both.)

COMMISSION III

In its Chairman's opinion, the third Commission had no terminology problems.

The Deputy Rapporteur, however, pointed out that the close connection between problems of coproduction and exchange had led to confusion between themes 2 and 3.

The difficulty may have arisen through ambiguous drafting; in fact, theme 2 was intended to cover the purely programme aspects and theme 3 the legal, technical and financial aspects of programme distribution.

COMMISSION IV

The Working Group did not consider it necessary to insist on a definition of the terms MOTIVATION, PARTICIPATION and VISUALIZATION, which had been put forward rather to provide Commission IV with food for thought than as basic definitions.

On the other hand, the Working Group considered that their task is fundamental to the semantic and syntactical analysis of any information (or research) document concerning educational radio and television prior to the processing and circulation of such information.

5. *List of key-terms chosen by the Working Group.*

The Working Group was anxious to pursue a realistic aim which would be of use to the Conference. The Group put forward three types of conclusion :

5,1. *Classification* of Problems. The adoption of an analytical method such as the one just explained, which need not, however, be described to the Conference in detail. The method essentially concerns the level of research. It will suffice here to cite a few general terms, such as :

— ACTION AND COMMUNICATION;
— the distinction between the FUNCTION and the RELATIONSHIP of terms;
— general typology of the four TYPES or categories of educational radio and television, and of the four FIELDS of responsibility.

5,2. *Terminology.* The problems are the only element requiring thorough discussion, including consideration of the priority to be given to the study of functions and relationships. On the other hand, the words used to denote relationships or functions are a matter of taste, common sense, and sometimes, convenience. The adoption of such terms can lead to very different choices being made in different languages, so that the terms will as a rule not correspond to the usual translation equivalents. In addition, it seems advisable to group words in twos or threes because functions and situations often become clearer when the word used to denote them is accompanied by contrasting or complementary terms.

Thus, in French, *Field* 1 will cover (English terms suggested in parentheses) :

SITUATION (situation) — ENVIRONNEMENT (environment)
MÉTHODE (method) — PROCÉDÉ (procedure)
PRODUCTION (production) — PROGRAMMATION (programme planning)

Field 2 will cover MOYENS (means) — OBJECTIFS (objectives)
OPÉRATIONS (operations) — EFFICACITÉ (effectiveness)
RENDEMENT (output) — RENTABILITÉ (profitability)
DIFFUSION (broadcasting) — DISTRIBUTION (distribution)
CIRCUIT FERMÉ (closed circuit) — ORGANISME (a body or an organization)
ORGANISATION (organization) — ARTICULATION (articulation)

6. *Basic terms for defining educational radio and television problems.*

6,1. *Communication* : It was suggested that the production and transmission of audio-visual broadcasts having an educational purpose should be recognized as a fundamental aim of educational activities in radio and television.

This proposal constitutes a whole, designated by the term " educational radio and television communication, " which may be summed up in the following formula :

WHO SAYS WHAT TO WHOM — WHERE, WHEN, HOW — WHY?

A superficial approach would consist of separating the three parts of the preceding sentence, in order to deduce an over-simplified relationship between :

TEACHING —	TELECOMMUNICATIONS —	DEVELOPMENT
(Educational System)	(Radio & Television)	(Economic & Social Planning)

In actual fact, interaction (as regards functions, and relationships between terms) leads to the description of complexes, which constitute TYPES of Educational Radio and Television corresponding to the typological anaylsis of the principal communications systems.

6,2. *The kind of different types of Educational Radio and Television.* The Working Group suggested classifying Educational Radio and Television into four types. These distinctions are purely for identification purposes and do not imply value judgements. They are founded on distinctions put forward by Mr. Schramm on the basis of two criteria : whether Educational Radio and Television is used as a substitute for conventional teaching or as a complement to it, and whether it is aimed at an audience in an educational institution or not. Accordingly, types 1 and 2 may be defined as follows :

— *With regard to institutional teaching* :
TYPE 1 : Radio and television as aids to conventional teaching, and
TYPE 2 : Radio and television as substitutes for conventional teaching, in order to remedy certain deficiencies of the teacher, of the taught, or of circumstances.

— *With regard to extending the scope of teaching beyond the institutional framework :*
TYPE 3 : Radio and television for the promotion of literacy and the speeding up of certain educational processes, particularly in developing countries, and
TYPE 4 : Radio and television as a part of lifelong education, covering a range of cultural, social or professional activities.

6,3. *Fields of responsibility.* It was suggested that a distinction continues to be made between four different fields of responsibility, along the lines of the four Commissions of the Paris Conference. This would constitute a systematic classification of educational radio and television activities. Each field is based on the inevitable link between two kinds of function.

1. *Teaching methods and production* : This field of responsibility involves both teachers and professional radio and television staff because of the interaction between form and content of the broadcasts.

2. *Organization and planning* : This field of responsibility is common to the specialists just mentioned (who have to secure their organization's participation) and those responsible for social and economic development.

3. *Cooperation in the spheres of means and productions* : This field covers international exchanges and cooperation :
— either as regards means (exchange of information and staff, and cooperation using link-ups or satellites);
— or as regards productions : exchanges, distribution and co-productions.

4. *Research* : Bearing in mind the fact that basic research into audio-visual media cannot arbitrarily be limited to the educational sphere or entirely devoted to it, two kinds of applied research may be envisaged :
— *Methodological Research* designed to clarify the foregoing questions as a whole, by classifying problems and evolving terminology, as well as to help speed up working methods and the international dissemination of information, both on the general and research levels, and
— *Practical Research* designed to make clearer the many functions and relationships which educational communication implies, and to enable those in charge of Educational Radio and Television to benefit from the contributions of research workers and specialists in the different subjects.

7. *Definition of three pairs of terms in field 1.*

With reference to the diagram :

WHO SAYS	WHAT	TO WHOM	WHERE	WHEN	HOW	WHY?
(1)	(2)	(3)	(4)	(5)	(6)	(7)

SITUATION — ENVIRONMENT

SITUATION *:* a set of circumstances directly related to a given action (general sense) :
— diagrammatically, the relation between pupils (3), together with the circumstances (4, 5, 6) and the complementary actions by the agent (1);
— specifically, situation means the educational circumstances : isolated, supervised or integrated, according to whether the audience is unorganized, supervised by monitors, or in the educational institution itself (taking into account the supporting material).

ENVIRONMENT : In general the totality of those circumstances not directly connected with the operation in question, within the framework of which the operation itself takes place :
— diagrammatically : a relation between pupils (3) and other agents; circumstances and motivations of similar operations, or with other forms of communication;
— specifically : the social, economic and cultural context in which Educational Radio and Television operates, especially that of home background and other information to which the pupil is exposed (especially, ordinary radio and television which G. Friedmann calls the " parallel school ").

METHOD — PROCEDURES

Setting aside the general meaning, it may be assumed that we are dealing here with a conventional meaning pertaining to two interpretations of the syntagma WHO SAYS HOW, depending on whether we are talking about a teacher or an audio-visual agent. Thus :

METHOD (teaching) will indicate whether the teacher is using a didactic, an active or a self-teaching method (cf. I,1);

PROCEDURE (audio-visual) suggests the variety of possible approaches, other things being equal, in combining various styles of production with various technical means (particularly different ways of presenting the same subject).

PRODUCTION — PROGRAMME PLANNING

Operations breaking down the action (TO SAY WHAT) (2) and characterizing either the production function (in relation to 6) in the sense of procedure, or the broadcasting as distribution function (in relation to 4 and 5).
A programme production (or a programme schedule) will be respectively the result of one of these two operations.

8. *Definition of the four triads of terms in field 2.*

Two of these triads really belong to field 1 :

BROADCASTING — DISTRIBUTION — CLOSED CIRCUIT

These three terms denote the operational (technical) means by which the message (the audio-visual record of « WHO SAYS WHAT HOW ») reaches the audience.

BROADCASTING means transmission of messages that can be picked up freely throughout the receiving area (in the I.T.U. sense of public broadcasting);

CLOSED CIRCUIT — POINT-TO-POINT : as distinct from broadcasting, means transmission of audio-visual signals reserved for private users, usually connected with the transmitter by exclusive circuits.

DISTRIBUTION : as distinct from the two previous terms, which imply instantaneous transmission; refers to the circulation of audio-visual messages in the form of recordings which may be copied or published.

EFFECTIVENESS — OUTPUT — PROFITABILITY

EFFICIENCY : Adequacy of the effects of an action in terms of the long-term objectives in view, or the relation between the observable result of an operation and the description of that operation in terms of the long term objectives.
The check of effectiveness can therefore be made in relation either at the level of a totality of operations, or that of individual operations.

OUTPUT : could be said to denote, for a given level of effectiveness, the economy of means achieved by such and such a procedure associated with such and such a method, with due allowance for the situation. The output obtained by different means can thus be compared.

PROFITABILITY : As a complement to the above, when the means are given and when the operation has been costed, the profitability depends on their relative effectiveness for the (socio-economic) aim in view. Thus profitability compares *gains* and *costs.*

MEANS — OBJECTIVES — OPERATIONS

OBJECTIVES : provided that a suitable typology of the various Educational Radio and Television operations is available, an objective will be defined, within any given category of Educational Radio and Television, as the change of level (cultural or educational) which it is desired to bring about in a given population (institutional or non-institutional).
In terms of the diagram, this means specifying the WHY to which a complex of messages corresponds.
Unless we distinguish between these two aspects, we shall not have the pair required for the AIM in view and the complex of actions designed to achieve it, which are further defined in terms of PRODUCTION and PROGRAMME.

MEANS : By definition, this denotes not the product corresponding to a specific aim, but the plant and its use (including staff) necessary to produce it. The term is used here in the economic sense, involving description of the technical and human means.

OPERATIONS : this means the sets of intermediate actions entailing use of the means in order to achieve objectives : the four main sets of actions in question are : the broadcasting process, the provision of equipment, the production process, and the utilization. To these four should be added the training of professionals in the Educational Radio and Television field and the training of users.

The MEANS-OBJECTIVES-OPERATIONS triad may be applied, of course, to many fields or levels, ranging from the general to the particular, from the technical to the social.

BODY — ORGANIZATION — ARTICULATION

The following distinctions should be made :

— the autonomous group of services engaged in a specific activity (a department or an organization);

— the system of functional relations connecting these services (organizational structure or organigramme);

— relations between bodies (coordination) such as may enable Educational Radio and Television operations to lead to the development of a new, special type of organization.

Glossary of key-terms employed in defining the terms of reference of the Commmissions

Action	Among all the numerous meanings of this word, we have only retained :« decision, proceeding, intervention of voluntary activity » (Lalande). Action, in this sense, corresponds to an objective *. It is efficacious (see also Efficacy) if the results obtained correspond to the initial objective. An educational * action is an intervention or a co-ordinated succession of interventions corresponding to an educational objective. A radio-television educational action is an educational action accomplished by means of radio-television. Its principal phases are the idea of the programme *, programming *, production *, broadcasting and, when necessary, organization of reception *, for the purpose of the separate or collective utilization of the message *. This action as a whole may be divided into intermediary actions, corresponding to partial objectives, according to the stage reached and the functions of the responsible agents (programmer, sound-track engineer, etc.) at that stage for the pursuance of the action.
Animateur	In the Conference context, the animateur is essentially responsible for the synthesis. His task, on behalf of the Commission to which he belongs, is to draw up an inventory of the problems, at the preparatory stage, and afterwards to co-ordinate and harmonize the contributions of the various experts * and the several delegations.
Articulation	Assemblage of separate parts. In the context (the Second Commission's mandate), type of organization * opposed to re-grouping : on the administrative level, educational radio-television's action implies : — either the establishment of a system of co-ordination between the radio-television agencies and the government authorities responsible for education, both retaining their autonomy (articulation); — or the formation of a single agency for educational radio-television (through re-grouping of the responsibilities).

Attitude	« Personal reaction, depending on individual and social factors. The pressure of the social group influences the personality and leads it to adopt more or less favourable attitudes towards different persons, objects or situations » (N. Sillamy). Education * also tends to influence attitudes. Teaching *, the conveyance of knowledge and know-how, is not directly connected with attitudes, but the teacher cannot neglect them; the efficacy of the teaching depends, for a large part, on the favourable or defavourable reaction of the pupil; on the other hand, the pedagogical method * chosen for the teaching develops certain attitudes, at the expense of others.
Attributions of the commissions	In the Conference context, the extent of the four commissions' respective domains, as defined by their mandates. As some of the key-terms used in the wording of these mandates may give rise to different interpretations which would inevitably cause uncertainty as to their attributions, this glossary * supplies a temporary definition for each term.
Broadcasting	This term should be reserved for « transmitting audio-visual messages * by electro-magnetic waves which can be freely captured throughout their receiving area » *. The term broadcasting is therefore understood in its classical sense, approved by the International Telecommunications Union, of « broadcasting service ».
Classification	Act or result of classifying. According to Lalande, classification is « the apportionment of a number of objects into a number of partial, coordinated and or subordinate sets ». Among the assignments of Commission III figures the *classification of written information* relating to educational radio and television *. The Commissions entrusted with identifying, from a given experiment in educational radio-television, that which may be of interest to other agencies in the ambit of international exchanges. The Commission will be assisted in its work by : — an analytical schema designed to guide the Conference in its work : apportionment of problems relating to educational radio-television amongst the various Commissions; analysis of the various aspects of a problem within the scope of each assignment; — a schedule specifying the order of presenting the papers addressed to the Conference by the various countries; — the communications of experts *, in particular that on the specific problem of classification presented by Mrs. N. Gardin; — the criteria of analysis elaborated by the three other Commissions during the Conference.
Control	The act of verifying or the sum of the verifications which ensure the conformity of a product, an activity, a result, etc. with a previously defined standard.
Co-operation	Joint action of individuals, groups of bodies or of nations for the purpose of attaining common objectives (see also : Exchange and co-operation).

Co-production	Association of several agencies * in a production * of mutual interest. A co-production is therefore a particular form of co-operation *. Its administrative, legal and financial conditions are generally laid down in bilateral or multilateral definite agreements between the agencies concerned.
Development	Term borrowed from economics. Compared to growth (increase in the aggregate production indexes, which is not necessarily harmonious), development corresponds to a harmonization of growth and generally implies a modification of structures. It therefore occurs, almost necessarily, within the framework of a plan.
Didactic	Designed to convey knowledge. The terms of reference of Commission IV make a distinction, in the educational message *, between the purely didactic elements and those whose purpose is to awaken interest in the pupil by influencing his motivation.
Dissemination	As opposed to the foregoing term, « dissemination » should be used to denote the transmittal of audio-visual messages * by means other than electro-magnetic waves, namely : by electric wire, point-to-point ; or by duplication of copies.
Education, **Educational**	The term « education » is sometimes used to denote a process, sometimes the results of that process. 1. In its broadest sense education is « the process whereby the individual, in his biological connotation, is integrated in a given society. By means of this socialization the individual becomes a human being and acquires the behaviour enabling him to live in a given society » (E. Willems). 2. In a restricted sense education « covers all processes whether or not institutionalized, whose aim it is to impart knowledge and certain given types of behaviour with a view to ensuring the continuity of the society's civilization » (E. Willems). 3. As a whole therefore radio-television broadcasting has an *educational effect* if the term is interpreted in its widest sense : that is, the influence exerted by audio-visual messages, in the same way as influence exerted by newspapers, the social group, the family environment, collaborate in a vast educational process whereby the individual becomes integrated in the society. 4. The Paris Conference uses this term in a strictly determined sense to specify *educational radio and television* *. It holds educational radio and television broadcasts * (in French « actions ») to mean only those having an explicitly stated educational goal *. It is clear that such broadcasts are distinct from purely cultural ones in their highly deliberate and systematic character. The educational character of a programme * should be clear from the following features : — With regard to goals, it aims at the systematic acquisition and enhancement of knowledge, — Programming * should be regular and gradual, — Programmes should in principle be accompanied and backed by suitable supporting documents, — As regards receiving conditions *, reception should be active and sanctioned by examinations, if appropriate; and in any case sustained and controlled. The scope of educational radio and television thus defined encompasses, besides the customary school structure (primary, secondary and vocational),

	university education, adult education, campaigns against illiteracy, social promotion, etc. *Basic education* (or basic teaching) : elementary education, in other words the least that the whole of a given population should know in order to meet social needs. The act of imparting this minimum of knowledge. The term has both a wider and more variable sense, depending on the societies and periods, than alphabetization * (note that in our time, alphabetization obviously forms a part of basic education).
Educational radio and television (types of)	(In French, *types de radio-télévision éducative*) : The assignment of Commisson II distinguishes between four types of educational radio-television broadcasts, depending on the role ascribed to radio-television in the pursuit of an educational goal : radio and television may either be used in conjunction with traditional instruction, within the normal school curriculum (types 1 and 2 below), or it has an autonomous role and may be used outside of the curriculum (types 3 and 4). *Type* 1, *known as supplementary instruction* in order to improve the instruction. This assumes, in the wording of the assignment of Commission I : « that reception is integrated in the normal school curriculum, calling for the presence of qualified teaching staff. » *Type* 2, *known as palliative instruction,* intended to enlarge its field of application; as when it supplements a deficiency in qualified teachers. Where educational broadcasting is autonomous it breaks down into two further types; outside of the usual school curriculum. *Type* 3, *or basic education,* e. g. in the ambit of literacy* campaigns or basic education* campaigns. *Type* 4, *known as permanent education* to assist in the professional training and/or education* of adults.
Efficiency or Effectiveness	The degree to which the effects of an act * are equatable with the goals * initially set. Efficiency has a global meaning and can seldom be measured.
Environment	As opposed to situation *, that is, to the whole of the conditions directly connected with the action *, environment is the general context (social, economic, cultural) in which this action takes place. Radio-television's educational action or the school's action are not isolated in their effects. Other influences, those of the family circle, the social group, newspapers, the audio-visual messages as a whole, also have their effects on the pupils and partly determine their attitude * towards official teaching. The environment is, by definition, something educational radio-television cannot modify, but which it must take into account in order to be efficacious.
Evaluation	Appreciation of the results as compared to the objective (control * of the results being the sum of the verifications which enable to reach the most precise and certain evaluations possible).

NOTE : *Education, Pedagogy and Teaching* : These terms are so frequently used interchangeably or with varying connotations that we have been forced to select one meaning which should be assigned to each term, and more specifically the relationships between them. In this we have kept close to the customary meanings ascribed to them. Annexed hereto is a contribution by M^{me} Dina Dreyfus on this question.

Exchange	« Changing a person, an object against another » (Littré). Agencies * can thus exchange, in the educational radio-television field, information and products, for documentation purposes : staff, at various professional levels, (trainees, probationers and experts, training personnel and research workers); or, even, programmes * for broadcasting purposes.
Exchange and co-operation	Title of the terms of reference of Commission III. A distinction is made between the exchange of personnel or of finished products and concerted co operation * with a definite objective of common interest (co-production in its various forms, joint utilization of satellites). Exchanges and co-operation between agencies of different nationalities pose a series of administrative, legal, technical and financial problems which it is Commission III's task to study.
Expert	In the framework of the Conference a competent person who, in reply to questions relative to a problem on which he has been consulted, expresses his private opinion.
Function	« The specific and characteristic role played by an organ in a body having interdependent parts » (Lalande). The analysis of the functional terms of the whole of the vocational activities of production *, programming *, and broadcasting *, should not be confused with analysis in terms of professional qualification and origin : some functions characterizing educational radio and television broadcasting * may, following suitable training, be performed by persons having very different professional origins (see also professional types).
Glossary	The present document defines the terminology* used in the wording of the four commissions' mandates. For those words which are considered key-terms, this glossary supplied, as required : — the classical definition; — the particular meaning given to these words in the professional context which is that of the Conference or, more specifically, in some sentence, of the mandates; — a resume, for each term, of the indications scattered through the definition of the Conference's trend, the preamble or the wording of the mandates.
Integration	See Plan-planning.
Know-how, Knowledge	(In French : *Savoir-faire, Savoir*) Among the numerous meanings ascribed to these terms we propose the following : *Know-how :* The behaviour called for in the practical accomplishment of a practical task; thus for instance the learning of a trade « the rough way », without prior theoretical knowledge, is typically a case of acquiring know-how. *Knowledge :* Basic theoretical background learning to which an individual may refer in order to face unusual situations, and which he is then in a position to understand and analyse in terms of problems to be solved. Professional or vocational training always comprises some degree of knowledge, even for accomplishing a given task, unless the task is entirely routine. School and university teaching is essentially the imparting of knowledge.

Literacy campaign	Concerted utilization of the means * enabling to reach, in the field of alphabetization, a limited objective * in a given time.
Literacy courses	Teaching of reading and writing. U.N.E.S.C.O. also includes the notion of arithmetic.
Means	In the most general sense, whatever is used to attain an objective *. As opposed to method (sum of reasoned proceedings of the mind), this term is given the sense of material means (sums invested, technical aid, necessary personnel, etc.). We distinguish between pedagogical methods * and technical, human and financial means (see also « process »).
Message	1. « The task to say or convey something. 2. The thing or the words conveyed » (Robert). It is in this second sense that we speak of an *audio-visual message*, that is, of what has been conveyed, by radio or television, to listeners or televiewers. The message therefore coincides with the product (or the production *). However, when we speak of a product or a production, it is in the framework of an analysis of the activities of which the product is the result. When we speak of a message, it is in the framework of an analysis of the communication established with those who are being taught.
Method	1. « Process of thought, course followed by the mind in order to discover and demonstrate the truth; 2. In a wider sense, the sequence followed in carrying out a piece of intellectual work; the resulting arrangement; 3. The sum of the reasoned proceedings of the mind taken in order to reach a goal in any field » (Robert). It is in this third sense that we speak of pedagogical methods having an educational * goal. The terms of reference of Commission I propose the classification * of these methods in three principal categories : — the « authoritative » method, which proceeds by predication (courses, lessons, demonstration, presentation, etc.); — the « active » method based on the notion of the pupil's interest and calling for his participation * during and after the broadcast; — the « autodidactic » methods based on research in the fields of the psychology of knowledge and the pedagogy of learning.
Motivation	The sum of dynamic factors which determine an individual's behavior (N. Sillamy). One speaks, for instance, of motivations which induce a pupil to pursue his studies. In a wider sense : the bringing into play of motivations which will impel someone to behave as we wish him to. It is in this sense that the terms of reference of Commission IV speak of « motivation processes ».
Objective or goal	« That which we intend to reach or achieve by striving » (Lalande). To set oneself an *educational goal* * is therefore to strive to cause a given population at a given cultural level to reach a higher level. To achieve this goal

one performs an educational action *, setting in motion a certain method * certain means * and certain processes *. The end results * of the action are compared with the goals initially formulated.

The size and nature of the considered population, the scope and nature of the considered change, will vary with the situation and degree of responsibility of the individual or group which sets the goal.

To give an example : for a professor or teacher of a class, the goal could be imparting to the pupils of his class, by the end of the course he intends giving them, knowledge regarding cases of equality between right-angled triangles. For a school programme, the goal set could be knowledge of all the topics covered in the programme within the school term, etc.

An overall goal or objective, as for instance one set within a development plan *, may break down into a number of sub-goals, e. g. partial goals set for organisms, groups or individuals cooperating to implement the master plan. Medium or short-term goals may be subordinated to a long-term goal.

Operation

The same kind of relationship may be established between operation and action * as between method * and process *. An operation is part of an action * (an action implying the carrying out of a series of operations). The unity of the action is constituted by the objective to which it corresponds. The operation is considered in itself. It only takes on a meaning when it is inserted in the whole.

Organism, Organization

(In French *Organisme, Organisation*) : The primary meaning of the term « agency or body » is « a living creature, considered in particular as consisting of parts capable of performing different and coordinated functions » (Lalande). By extension, the term has come to be applied to other wholes possessing similar properties. In the administrative sense, agency is thus an autonomous assembly of departments and services, each performing its own specific activity.

With regard to « organization », it would be best if in the ambit of this Conference the term were not used in a sense virtually synonymous with « organism ». The definition advocated here is that of A. Lalande : « The manner of accomplishing the cooperation between various parts of a whole. »

Thus Commission II has the assignment of comparing *two types of administrative organizations*, which is to say two systems ensuring the cooperation of departments and/or services in educational radio and television broadcasts, i. e. the articulation between the broadcasting organisms and the governmental authorities concerned, also apportioning the responsibilities in an educational broadcasting organism.

Organizing a service, or set of activities, etc. means setting up a system of relationships to ensure the cooperation of the individuals within that service, harmonizing their activities, etc. In this sense, organization may also connote the act of organizing.

Organization and planning

Title of the Second Commission's mandate. This Commission's task is to study the problems raised by the development * of educational radio-television *, whether this development is planned separately or whether it is integrated in a general plan (general teaching plan or national plan for socio-economic development *). The development implies, on the other hand, the solution of problems of an administrative nature (articulation * of radio-television agencies * and government authorities, or regrouping of the responsibilities in a single agency for radio-television) which the Commission is also empowered to study.

Output	(In French, « Rendement ») : Ratio between the results* and the means employed to produce the results. Two acts will be equally efficient if they have achieved the same results; but one of the acts will have a better output than the other if it has called for lesser technical, financial and / or human means to achieve those results.
Participation	« In the strongest sense, participate is to contribute actively, actually, personally to an action. However, the word is often used in a weaker sense » (Suavet). The pupils' participation in teaching is greater or less depending on the pedagogical * methods employed : in the so-called « active » methods, it is very positive. It can be qualified as feeble in the case of authoritative methods which principally require that the pupil be attentive and, only if possible, interested. However, even in this case, there is the possibility of interaction between the teacher and those taught which disappears when the communication, by radio or television, functions in one way only. The Fourth Commission's task is to study the *participation techniques* which endeavour to assign an active role to the pupils taught by radio-television teaching. The Commission will draw up a descriptive list of these techniques and study their variations depending on subject-matter and audience.
Pedagogical application of research	Title of the Fourth Commission's mandate. Designed as an auxiliary of the other three, this fourth commission groups the research workers whose task is to be directly useful to the professionals of educational radio-television : propose a terminology * to facilitate the Conference's work for the time being; draw, from the whole of the research work on the four themes : visualization *, motivation *, participation *, environment *, information capable of being utilized by professionals *; draw up an inventory of the methods of control * and evaluation * of results.
Pedagogy **Pedagogical**	Art, science or theory of education. « Apprenticeship pedagogy » is thus the theory of apprenticeship. While education * designates a number of real processes, pedagogy is rather reflection on these processes and only on those that are intentional. The adjective « pedagogical » is therefore to be preferred in speaking of methods, of analysis of the conditions in which the educational action takes place, of theoretical tendencies, etc... (See also « pedagogical situation » * and « pedagogical methods » *). The etymology of this word should prevent its being used in respect of adult education; however, in the lack of any other term (the word « anthropology » not having been adopted) this use is tolerated.
Pedagogy and production	Title of the First Commission's mandate. Radio-television's educational action is only made possible by a combination of three sorts of abilities : pedagogical *, artistic and technical. The First Commission will draw up three inventories of the questions concerning : — the principal forms of educational radio-television according to the audiences and the criteria set up for their description; — the relationship between the specific nature of an educational action * and the process * of putting it into an audio-visual form; — the broadcasting production staff, assigning of responsibility and training of specialized personnel.

Plan, Planning	In the general sense, a plan is « the whole of the arrangements made for working out a project » (Bettelheim), and planning is the implementation of the plan. « In economics, the work plan first designated a coherent group of particular objectives and the means of achieving them, the aim of the plan being to organize the means * as rationally and economically as is consistent with the objectives * : ex. : plan of electrification of a region, in order that each district shall have electricity within ten years. » In recent years, the term « plan » has also come to indicate « the official document setting forth the national objectives as regards total economic production and the means to be employed to attain this goal » (Suavet). The term is used in the narrow sense in the Second Commission's mandate, where it speaks of *planned educational radio-television*, its development * being considered separately. On the other hand, one speaks of *integrated educational radio-television* when the development takes place within the framework of a larger plan, whether general educational planning designed to organize all educational action or, in a still wider sense, planning on the socio-economic level.
Process	Whereas the Word « method » * covers the entire series of reasoned proceedings enabling to attain an objective, the term « process » indicates the manner of accomplishing an operation of detail and does not evoke the idea of finality. Technical processes of production, of expression (by film or directly, special techniques of putting on the air or into pictures, etc.) may be used in different educational concepts.
Production, Product	(In French *Production, Produit*) : 1. In economics, *production* may denote : — the act of producing; — the quantity of articles produced during one manufacturing cycle or within a given time (i. e. output); — the stations where operatives actually produce (as opposed to posts of an administrative, managerial or maintenance nature, as an instance — according to Suavet's definition). 2. In broadcasting jargon, production may denote either the product itself (i. e. one often refers to a « production » in the sense of a radio or television programme), or a set of activities or means called for in the fabrication of a product (c. f. « production control », « production programme », etc.). 3. In an even more restrictive meaning of production, the term may cover the conventional functions* of producing as opposed to the functions of performance. Thus whereas the former denotes the technical and/or economic means employed in manufacturing a product (in this case a broadcast), the latter denotes the audio-visual form given to the content.
Production * control	Ensures the conformity of production * activity with the programming * standards and that of the product with the initial idea of the programme.
Production mechanism	In the terms of reference of Commission I, the practical conditions in which the production department works.

Professional profile	The whole of the competences, aptitudes and talents required in order to fill a given professional function *.
Professionals (types of)	In the Conference context, the classification of professionals according to type, is based on the notion of competence. A distinction is made between three types of professionals employed together in the production * of educational broadcasts : educators, competent for objectives *, subject matter and pedagogical methods *; « artists », competent for the putting into audio-visual form; and the technicians, competent for the means * employed. This analysis in terms of competence differs from the analysis in terms of function *, based on the distribution of responsibilities in the production process. It is on the analysis by function that a definition of the principal professional profiles may be based.
Profitability	« Originally, the notion of profitability was closely connected with the notion of profit. A business is profitable when the total of receipts is greater than the total of expenses required for its establishment and rational management... In a more or less planned economy, the notion of social profitability is elaborated : a new factor intervenes, that of the progress of the community as a whole. Thus, scientific research is profitable for a State, even if the direct financial results are slight. The improvement in the intellectual level of the country benefits the whole population, even if it is impossible to measure it in terms of profitability » (Suavet). Speaking in the absolute of the profitability of educationel radio-television, one can only do it in terms of social profitability that cannot be measured. Its probability will be evaluated in the narrowest and financial sense in comparing the means it uses with those of another system (for ex. traditional teaching) aiming at the same results.
Programmed analysis	In programmed * teaching, analysis of the subject matter to be taught, necessitating the programme's * division into items. For authors who work empirically, this analysis is made at the same time as the programme is composed. For others who require a more rigorous technique, the analysis of the subject, matter is a phase of logical study, preceding the drawing up of the programme this latter being a purely pedagogical concern.
Programming, Programme, to Programme	(In French *Programmation, Programme, Programmer.*) 1. In a general sense, programming refers to organizing* in time the set of operations required to execute a project. Here, the programme may, mean either the document (schedule) setting forth the sequence of operations or the whole of the programmed operations. 2. In broadcasting terms, *production programming* denotes organizing in time the production activities. 3. Used alone the terms *programming*, *programme* and *to programme* connote the *programming of broadcasts :* this consists of organizing in time the broadcasting of a series of audio-visual messages*. By now the term « programme » has come to denote the series of messages comprising the programmed broadcast.

	4. By analogy, in teaching the term « programme » has come to denote the whole of the topics that the students have to learn in a given chronological order; and in Programmed Instruction* that series of items.
Reception (conditions of)	For radio-television, all the existing material circumstances under which the audio-visual message* is received by the listener or the televiewer. Among these circumstances, the First Commission's mandate only mentions those which determine the pedagogical situation* in which the message is received. It proposes, in order to describe the conditions of reception, the following classification : — reception by individuals organized and not in any way with or without the support of explanatory publications; — reception, usually collectively organized, with the help of monitors or advisers providing individual or collective exploitation of the message; — reception integrated into ordinary educational activities which it strengthens or enriches; in such cases, the presence of qualified teachers being assumed.
Regrouping	See Articulation.
Results	The effects of an action* considered in connection with its objective* (see also : control * *of results*).
Results control or programme * efficacy control	Verifies, as a whole, the conformity of the results * obtained with the educational objective of the programme.
Situation	All the circumstances directly connected with a given action*. *Pedagogical situation :* All the circumstances directly connected with communication between the teacher and those taught. As regards educational radio-television, all the circumstances surrounding the reception and utilization of the audio-visual message (see also « conditions of reception* »).
Teaching	1. « Precepts which teach how to act, to think. » 2. « The act of imparting knowledge : that which is imparted » (Robert). 3. « The whole of the staff and the responsible departments of the instruction system » (Suavet). *Basic teaching* : See basic education, the two terms being often employed in the same sense. One is tempted to distinguish between them by stressing, in the case of basic education, the social necessities to which it corresponds and, in speaking of teaching, by putting the accent on the knowledge conveyed within the framework of basic education. *Programmed teaching* : Pedagogical methods * of an « autodidactic » type. A programme * of programmed teaching is designed so that the pupil can study it alone, at his own rate of speed, without necessarily requiring a teacher or a

N. B. : On « teaching », « education », « pedagogy », see appendix.

monitor. The subject matter to be taught is broken down into relatively simple elements, generally called « items ». Almost each item ends with a question (direct query, sentence to be completed, choice between several answers, etc.). The pupil answers and verifies the correctness of his answer before going on to the following item.

Traditional teaching : It may well be asked whether this expression has a precise meaning. As Guy Palmade observes (« Pedagogical Methods ») : « An attentive analysis... would not hesitate to substitute a plurality of tendencies for a single traditional plan... (However) this simplified manner of speaking is perhaps useful in bringing out the common characteristics of the new methods. »

It is a fact that whenever one speaks of traditional teaching it is in order to compare it with an innovation and the accent is put on one or another of its aspects, depending on the innovation considered.

If the matter under discussion is the new pedagogical methods * which require more initiative on the pupil's side, emphasis will be laid on the authoritative character of the traditional methods, on the fact that that teaching is based on a system of sanctions, both positive and negative, and on emulation, which ensure a sort of conditioning of the pupils. As regards objectives *, teaching which stresses the acquiring of knowledge will be opposed to education * which develops talents, aptitudes and personality.

In a comparison with audio-visual methods, the quasi-exclusive importance which traditional teaching gives to language will be insisted on.

Whether one considers programmed teaching or teaching over the radio or by television, the change is first of all, in the pedagogical situation * : in the traditional pedagogical situation, the teacher, present in the class, can observe the pupils' reactions, provoke them, if need be, and adapt his teaching accordingly; programmed teaching (except in rare cases) and radio-television teaching cannot be adjusted to the reactions of the audience and they require, in principle, a more rigorous preparation : preliminary survey of the population to be reached, study of pedagogical progression, control * of the results, etc.

Lastly, on the socio-economic level, a comparison will be made between the requirements and the number of qualified teachers available, between the scope of traditional teaching, limited to a class at a time, and radio-television's mass broadcasting (and, to a lesser degree, the publication of programmed teaching's programmes). It is esentially at this level that a comparison will be made, in Commission II, between educational radio and television * and traditional teaching.

Terminology

1. « Study of the technical terms relating to a science, an art.
2. All the terms themselves, the technical vocabulary peculiar to a branch of knowledge, a school, an author » (Lalande).

Each branch of knowledge, each profession, each school is obliged to compose a technical vocabulary, either by giving a specialized meaning to words in current use elsewhere or by inventing new ones. Except when this specialization or invention of words occurs within the framework of a particulary rigorous science or theory, the vocabulary is built up empirically and contains inevitable ambiguities and, even, contradictions. That is true of the vocabulary for educational radio-television, where the meanings vary from one language to another, from one professional group to another. It would therefore be difficult for a terminological survey not to take on, to some extent, a normative character. Even when it confines itself to reflecting the established use, it contributes, by defining the words, to a stabilization of the meanings; it also becomes necessary, in order to facilitate international exchanges and the relations between one professional milieu and another, to standardize the terminology. For the study of this problem the Fourth Commission has, to start with, two documents prepared for the immediate needs of the Conference by the Office of the General Secretariat for Organization : a professional vocabulary* and a glossary* of the key-terms used in the wording of the mandates.

Visualization

The action of visualizing. Result of this action.

Visualization renders accessible to the visual perception and, by this means, to the intuition, that which was not previously accessible : a logical structure (graph) or a hierarchical structure (organigram), the evolution of a phenomenon in time, quantitative ratios (statistical curves, graphs) etc. The illustration of an idea by means of concrete examples, the demonstration of the working of a machine, a chemical experiment made in front of a camera, etc. do not come, strictly speaking, under the heading of visualization, unless we take the word in its enlarged acception : the presentation of subject-matter by means of processes of expressions peculiar to the image.

Vocabulary

All the words belonging to a language. All the specific terms of a branch of learning, an author (abridged Larousse dictionary).

In the framework of the Conference, a list of 300 words currently employed in the technical and production* fields, with their French-English and English-French equivalents. This document was drawn up by the Office of the General Secretariat for Organization, in order to facilitate translations. It is for the Fourth Commission to consider the advisability of developing it and extending it to other languages.

APPENDIX BY Mme DINA DREYFUS

Education

H. I. Marrou defines education as : « The collective technique by means of which a society initiates its youth into the values and techniques which characterize its civilization. Education is therefore a secondary phenomenon, inferior to civilization, of which it is normally the résumé and the condensation. »

In so far as we are concerned, pedagogy and education differ on the following points :

1. pedagogy is only a system of means : in this respect, it comes under the category of technique; education, on the other hand, chooses or thinks it chooses its own aim;
2. pedagogy, as its name indicates, only concerns children, which implies that the cultural apprenticeship, whether to reflection culture or to specialized learning and know-how, can be achieved once and for all and stop at an arbitrarily fixed age; education, on the contrary, concerns adults as well, which makes it possible to speak of continuous (or permanent) education;
3. the notion of « pedagogy » belongs more or less to a positivist, pragmatical or even scientific or technical school of thought; the notion of education depends more on a spiritualistic attitude.

It is possible to unify, purely verbally, the two notions (by ignoring the two conflicting schools of thought and the underlying practice) if we admit, without prejudice to the choice of the aim, that pedagogy is the sum of all the best means by which a child is made capable, when he is adult of reaping the benefits of continuous education.

Pedagogy

A group of processes, capable of being formed into a system, the purpose of which is to lead youth progressively towards goals which are not determined by pedagogy itself but by a given culture.

In France, there are two conflicting tendencies as regards the goal to be reached : one, which we call humanistic because it identifies cultural aims with human aims, according to the idea which this culture has of man, wishes pedagogy to call forth and develop what we call judgment or reflection, i. e. the power of criticism or selection of information according to norms other than ludic or even aesthetic; the other tendency, which may be called technocratic or, more simply, technical, considers that the pedagogical aim should be the acquiring of knowledge or of know-how.

Pedagogy is thus, whatever its aim, the system of the best possible means and should therefore have at its disposal processes designed for the control and evaluation of its efficacy.

Traditional teaching

Traditional teaching may be defined, either by its subject-matter and its function or by its manner of transmission, or by its style. Or again, either by its aim or by the means it employs.

M. Bourdieu defines traditional teaching as a system « whose purpose is to convey an integrated culture to an integrated society, total teaching preparing for total rules », opposed to « specialized teaching, conveying specific knowledge and know-how ». Its function is to ensure the « cultural integration » of the cultivated class. What M. Bourdieu considers as « traditional » is therefore an idea of culture both historically produced and received by the cultivated class, through which that class recognizes its members and by means of which it « distinguishes » itself, which it preserves in order to preserve itself.

On the opposite side, M. Bourdieu sees « the progressive rationalization of a system of teaching which is more and more exclusively organized with respect to the more and more diversified professional activities for which it prepares its pupils « and which may, as a result, be a « menace to the cultural integration of the cultivated class ».

Traditional teaching may also be defined by the means it employs and, firstly, by its manner of transmission. What we wish to oppose is not tradition to specialization, but rather tradition regarded as routine, empiricism — to that which is not traditional — regarded as rationality and technique (we mean here a rationality not of aims but of means, not a rationality of the sense but a rationality of functioning).

In this sense, teaching would be traditional which did not have at its disposal the specific techniques designed to render the act of communication, which defines it, more efficacious; techniques which, therefore, must involve an objective control of the quantity of information received in the normal form of school compositions. This definition presupposes that the act of communication, which is the definition of teaching, depends on technical norms. However, in the strict meaning of the term, only machines obey technical norms, for they alone produce exactly the expected effect with the permanence and the necessity resulting from causality. In teaching one cannot speak of technique, but only of competence or incompetence, and there are many ways of being incompetent, either through insufficient knowledge of the subject to be taught or through indifference to the historical, social or cultural conditions of teaching, either because one has never taught or because one has never yet practised methodical reflection. What we oppose here to rationality is the lack of reflection. Tradition then means lack of reflection.

Again, traditional teaching may be defined as *excathedra* teaching, which is not to be confused with masterly teaching as opposed to the so-called active methods. But one forgets then that the tradition of « active » teaching goes back to Plato and is therefore more ancient than the other kind. We therefore have here two conflicting traditions and not a conflict between a traditional and a non-traditional teaching.

We would be inclined to define traditional teaching in France by two characteristics :

1. *it is based on the language* and whatever may be its aim conveys knowledge or know-how, teaches the pupil mental attitudes which will enable him to acquire knowledge or know-how, supplies him with the intellectual instruments or the formal operators which will enable him to reflect on the world in which he lives, or even to transform it, whatever its aim, traditional teaching makes use of language, solely or essentially;
2. *a strange personalized relationship establishes itself, from the start, between teacher and pupil,* an original relationship which resembles no other one, since it is neither exactly moral (based on respect), nor exactly affective (based on reciprocal sympathy), nor exactly intellectual (based on a community of viewpoints or speculative interests), nor exactly utilitarian or pragmatic (based on mutual practical interests). It is more a link between subjects, rather than persons, and partakes of the nature of a tête-à-tête.

Closing Session

Wednesday, March 22nd, 1967

Speeches by Messrs. **ITALO NERI**
General Rapporteur

JEAN THOMAS
Chairman of the French Delegation

ALVARO GALVEZ Y FUENTES
Director-General of Education by Audio-visual Methods
Secretaria de Educación Publica — Mexico

TOR GJESDAL
Assistant Director-General in charge of communication,
United Nations Educational, Scientific and Cultural
Organization

JACQUES-BERNARD DUPONT
Chairman of the International Organizing Committee

JOHANNES B. BROEKSZ
President of the European Broadcasting Union

Italo Neri

General Rapporteur

We think it legitimate for you to expect from M. Kolade and myself an answer to the simple question : « What has happened at the Paris Conference? » but we also think it legitimate to state that you have already obtained an exhaustive answer through the reports you have heard during the last five days of plenary sessions.

What we shall attempt to do — perhaps a little arbitrarily — is simply to single out a few essential points and stress certain others that have been somewhat neglected owing to the range and complexity of the subjects dealt with, but that nevertheless are part of a single whole that must serve as a basis for our future activities.

Do not be alarmed : we shall not set about describing again in detail the conclusions of the Conference since the Chairmen and Rapporteurs of the Commissions have already done that.

We shall also avoid repeating that a very open — perhaps too open — dialogue has been started between broadcasters, educators, researchers, and planners, etc. Perhaps we cannot, as yet, speak a common language, but this has enabled us to realize for the first time the need to work together and re-think together the bases of our activity.

We shall merely seek to emphasize a few salient features, a few points that I hope may help you to grasp more fully what has been going on in Paris. What, then, has been achieved?

First of all, a full inventory has been drawn up of all that has been achieved in the field of educational radio and television during these last three years.

After studying this inventory and comparing it, above all with the results of the Rome and Tokyo Conferences it is possible to make some particularly interesting observations.

In the first place the development of educational broadcasting grows ever more rapid : the impression is one of a snowball when it is realized that during the last three years something like 30 new services throughout every continent have got under way.

This development appears all the more striking when it is realized that the inventory that has been outlined here comprises schemes that are but a few weeks old such as school television in Singapore and the first use of rural television in India.

Educational broadcasting is developing more or less everywhere throughout the world, but we should like to stress the really extraordinary progress that may be noted in African and Asian countries both in the amount of new initiatives — sometimes undoubtedly limited but sometimes very original — and in the quality of programmes as was evident here as well as on the occasion of the Japan Prize during the month of November.

One can likewise observe the influence of technical progress on the rapid development of educational broadcasting. I recall with what interest those attending the Tokyo Conference followed the account given by the Danish delegate of the distribution in his country of school radio programmes recorded on tape. Now, this use of tapes which overcomes time table difficulties and means that programmes can be heard again at leisure, is a common phenomenon alike in industrialized and developing countries.

Technical know-how is ensuring the same possibilities for television programmes : the sole example we have been shown — that of Tokyo schools equipped with videotapes — already illustrates the results that can be obtained and the changes that must be envisaged.

It is mainly in connexion with radiovision that the possibilities of colour have been mentioned. The N.H.K. delegate has referred to a still rather limited but very interesting experiment in educational colour television, and we realize that its scope must forthwith be examined, as colour will soon be introduced by several organizations.

Although I have mentioned only two examples, it is certain that in coming years several other technical facilities will be offered us. Among the numerous documents presented at the Conference there are some we should like to draw your attention to, that summarize present possibilities and also the progress envisaged in the next few years, especially in the field of sound and visual recordings.

We should also like to make the point that radio has been spoken of far less than at former conferences. Does this mean that its interest as a means of education is lessening? In our view the answer is : «No». If the progress of television seems more striking than radio, at the same time, radio has appeared to conserve all its importance, above all in areas still with a plurality of languages, or where electricity is lacking, or in regions where immense distances have to be covered. In fact it has become evident, rather, that radio and radiovision — ever progressing — must be much more closely integrated with television. Some very symptomatic experiments have already been carried out. I should like to mention the radio-television and correspondence courses of the N.H.K. and the Radio Télé-Bac in France where both media are used jointly each being destined to deal with the disciplines most suited to it, on the basis of all necessary comparative research.

We thus pinpoint one of the main ideas arising from this Conference : ever-increasing interpenetration not only of radio and television, but also of educational broadcasting and the teaching system, of educational broadcasting and planning, of educational broadcasting and research.

If, for us, the Rome Conference was one of discovery and the Tokyo Conference one of consolidation, the Paris Conference, we think, will be one of integration.

Among all the educational broadcasting experiments that have been presented, a tendency emerges that was already glimpsed at the Tokyo Conference : in all countries of the world, whether new or industrialized, the accelerated growth of educational needs calls increasingly for the use of new media and leads to an ever more frequent use of radio and television in forms most directly linked to the teaching process. We have been able to observe here that this orientation has become much more marked. In spite of the great variety of systems corresponding to the great variety of needs, and in spite of the persistent validity of what is called enrichment, everywhere, to some extent, efforts to integrate radio and television ever more closely with educational systems are evident. In Australia, for example, school television that began with enrichment programmes changed course two years ago and now, we are told, programmes are directly integrated for more than 4 hours daily with the class-work in each State. This integration, in different forms and in different conditions, is also evident in Israel and India where teaching in schools is shared by class-room and television teachers who form a kind of « duet » requiring a true intercommunication between them.

Integration with the educational system can also be effected outside schools themselves as is proved by the Chicago Junior College and the recent initiatives of the Bavarian Telekolleg and Polish Polytechnic characterized by the multiplicity of means employed (television programmes, correspondence courses, etc.) that form an indissoluble and well-articulated whole. Along the same lines one may mention the Samoas where television trains teachers and pupils at the same time.

This tendency, which is widespread, means that educational radio and television is abandoning the marginal role it had at the beginning to assume a much more central one in the educational system. This is a new phenomenon and calls for fresh dialogues between broadcasters, educators, researchers, and planners.

As the French Minister of National Education said at the opening session : already the consequences of the upheaval caused by the introduction of mass communication techniques into the field of education are noticeable. Formerly a closed self-sufficient world, teaching can no longer stand aloof; the use of audio-visual techniques has completely transformed the means whereby education and culture are transmitted and acquired. Books, the traditional vehicle for this transmission, have today been deprived of their monopoly. In many countries a growing mass of men and women come into contact with knowledge without the aid of the written language, sometimes even without the aid of schools.

The various specialists who have met here for the first time are agreed on the need to revise traditional patterns and tackle problems in an innovating spirit.

Innovation is the hallmark of this Conference : the need for renewal grows more and more pressing in the field of education, and this explains the fact that in several countries now, radio and television are used for the training and informing of teachers. Such activities range from the radio programmes intended as refresher courses for teachers, to the closed circuits that are springing up practically everywhere, especially in the United Kingdom, and to the series of television programmes intended for teachers.

The numerous experiments that have been shown confirm that television can effectively help spread new teaching methods. I shall only mention here, in view of the importance of this field, the French and British experiences in the introduction of modern mathematics.

But I should like to go further and stress, for instance, the case of Sweden where, through radio alone, it has been possible to start English teaching in primary schools where otherwise there would have been a lack of qualified teachers. I shall also cite, if you will allow me, the case of Italy where television has played an effective part in the introduction of a school reform, by showing a concrete example of new programmes and new teaching methods to teachers and interested parents. It seems to me that these examples confirm the tendency to incorporate radio and television more and more into educational systems.

The many documents provided by organizations and gathered together in the very attractive library are likewise a proof of the tendency to pass from simple accompaniment to closer integration with class-work; and for the first time we have found in publications intended for isolated pupils some elements of programmed learning.

Another tendency that seems to me to emerge, especially from the reports by continents, is the growing distribution of auxiliary material, or rather partial aids, such as records, slides, films, cassettes, programme-kits, etc.

In our view, this tendency will, in the immediate future, modify the basic terms of our problem. We shall, in a more distant future, even have to re-think the basis of our activities if, as an American delegate has forecast, electronic computers are used as libraries, and satellites as a means of distribution.

Difficult as it may be to assess the pedagogical and social contribution of educational broadcasting it is nevertheless necessary to do so in order to have it included in the economic and social planning of countries, especially in countries with limited resources. This need, moreover, had already been stressed at the time of the Rome and Tokyo Conferences.

After our work one may hope that some answers will be forthcoming, especially in view of the help that has been given, from economists and planners, despite the different approaches, and the difficulties of these first meetings.

There has been above all, in our opinion, a very clear awareness of the need to choose, to fix priorities among educational needs, and you appreciate how dramatic this choice may become at a time like the present when these needs escalate so rapidly. Let us picture, for example, a country that has to choose between an increase of primary schooling, the boosting of secondary education, and the training of new teachers. This instance also shows how necessary long-term planning is in education.

In spite of these various aspects, ranging from needs and objectives to administration and organization, the reports on planning have proved fairly homogeneous and may also be grouped under the heading of integration.

It has thus appeared, above all through the presentation of some original new structures, that these new dialogues may be easier in new countries than in industrialized ones where traditions are more firmly established. This morning we heard of a type of organization, the Corporation of Public Television envisaged in the Carnegie Report, which, coming as it does from the most industrialized country, the United States, might be taken as model in other countries and have an influence in the world of education.

But how can one seek to assess the impact of educational broadcasting, and prove it to planners, without a system of research and evaluation of results?

The need to develop research in various fields has appeared evident and urgent. And once again it is from a new country like Niger that we have learnt how one should introduce a system of school television with a research team associated with production from the very beginning.

This initial dialogue with the researchers has not been easy, but it has been realistic and not theoretical as one might have feared, and we can count on its continuance in a more understandable language.

At this Conference, the importance of pedagogical and social research has also appeared evident in one of radio television's essential roles : that of overcoming geographical and psychological isolation, and that of fighting against illiteracy. Even in this field one feels the increasing need for the harmonious integration of the various resources available — research, monitors, radio which can help solve the problem of motivation, create a vast movement of opinion and serve, as in Iran, to communicate with monitors; and lastly television, which has already shown its effectiveness in fostering literacy through functional methods.

From these few examples we can conclude that this first meeting between specialists of such differing backgrounds has been fruitful. This does not mean that the permanent dialogues one would like to see already exist, but the first steps at least have been taken. Perhaps we can add that the manner of envisaging the problem is no longer the same as it was before the Conference and we deem this to be important in itself.

It can also be claimed, we think, that these remarkable results are mainly due to the preparatory work started a year ago and to the new work formula which called on international animateurs. They not only contributed to the preparation of the Conference : they have also been responsible for a very interesting piece of teamwork during the last fortnight. In our view this formula has proved very valuable and should be retained in the future. Nevertheless, if this principle has been a novelty and, I may say, the key to our Conference, we must not forget the contributions made by the majority of delegates. We have observed with great satisfaction that our work throughout the whole Conference has maintained a highly professional tone.

But one of the aims of our Conference was to foster international cooperation and in this field the record is, in our view, very positive. It has been noted with satisfaction that the exchange of information, personnel and programmes has developed steadily. Certain particularly desirable aspects of cooperation have been stressed : for example, the kind of international school that the Basel Seminar has become for television, and which could be taken as a model for the training of radio producers as well.

Lastly, the educational possibilities of satellites in the future have been examined and the basis laid for common action aimed at emphasizing the pedagogical aspects and arousing the attention of the responsible authorities.

A concrete achievement with regard to international cooperation can already be put on record. The Latin American delegations have decided here in Paris to set up a Regional Ibero-American Association for Educational Broadcasting aimed at coordinating and combining efforts as far as production, exchanges of information and training of personnel are concerned. This initiative symbolizes the spirit of the Conference and can set an example for other forms of regional cooperation.

To all this must be added, we believe, the exchange of experience, whether general or particular, carried out thanks to this international meeting. There is no doubt that everyone of us has learnt a lot during this Conference and leaves more enlightened than he came.

These very important results are very largely due to the following factors : firstly, the human factor — many more people than expected have taken part in the work of the Commissions. This may have caused a few difficulties, but the meeting — so vast from the very start — has conserved a friendly atmosphere all along enabling several points of common interest to be singled out during public and private discussion.

Participation at this Conference has been striking; 510 people, including delegates, observers and auditors, have followed our work. 420 delegates have been sent by 102 organizations from 30 African, 12 American, 14 Asian, and 26 European countries — a total of 82 altogether; 90 observers and auditors attended the Conference.

A second essential factor in achieving these results is certainly to be found in the very large documentation that was collected. The careful work carried out by the special Selection Committee enabled us to view as many as 160 television programmes from 43 organizations, and to listen to 90 radio programmes from 40 organizations. In addition, more than 420 photographs and publications, sent in by 38 organizations, were to be seen in the exhibition.

I wish to conclude this very positive inventory with the remark that a 5 000 page volume would be obtained by putting together all the documents submitted to the Paris Conference.

All this work (preparation, seminar, conference) has brought about a fairly long and detailed series of observations, conclusions, and also recommendations. You have already been presented with them in the reports of the 4 Commissions; we shall confine ourselves to quoting the general conclusions formulated in 6 points by the 4th Commission which, according to the intentions of the Organizing Committee, had a rather special role to play.

1. The Paris Conference, following the Tokyo and Rome Conferences, has shown the great value of international meetings on the subject of educational radio and television and the steadily expanding range of their impact.
2. The purpose of such conferences is to compare results and see what are the right questions to ask next. Interim meetings between conferences should be envisaged, either for the purpose of putting certain results into shape, or for that of putting fresh information to use.
3. Small meetings for limited purposes, possibly confined to a limited geographical area, should therefore be held at suitable intervals for the purpose of putting into effect various findings of the present Conference.
4. In view of the problems brought to light by the four Commissions and taking into account the order of priority of the problems, the various professional bodies and national education authorities should make known their willingness to join in a given form of international cooperation on particular matters in which they consider themselves best qualified.
5. Several international organizations have been good enough to support the initiative taken by the E.B.U. by providing expert assistance and contributing in their particular fields. It is highly desirable that this support be maintained and that such contributions be extended as the specific nature of any particular project may require.
6. The most varied forms of cooperation should be found with the help of the E.B.U. and of the other regional Broadcasting Unions as well as of the competent international organizations like U.N.E.S.C.O. and the International Institute for Educational Planning, which have been ready to cooperate in the work of the Conference, and with the eventual support of interested research foundations.

You will see that it is largely a question of what the follow-up of the Conference will be. We sincerely hope that the many wishes expressed at this Conference in a new and innovating spirit will be received by the responsible authorities both in the national and international sphere. Everybody agrees upon pursuing in a continuous line the work begun here — as it is demonstrated, for example, by the proposal to continue, at a restricted meeting, the dialogue opened on the problem of costs.

The success obtained by the Conference is due above all to the O.R.T.F. and in particular to its Director-General, M. Dupont, who has animated and inspired the preparatory work and the sessions of the Conference. I should also like to thank M. Oudinot, the Secretary-General, M. de Chambure, the Deputy Secretary General, and the Secretariat as a whole for the way it has coped with the manifold difficulties that the assembly of so many people and documents always raises.

We should also like to express our gratitude to the E.B.U. and its President, Mr. Broeksz, for the effective help it has given to the development of educational broadcasting by sponsoring these meetings. The progress we have been able to note during the Conference is certainly the outcome of a common task bringing together experts from various fields, but it is also largely due to the sense of responsibility of the heads of the broadcasting organizations who have placed the two powerful media they control at the service of education and social advancement.

The fact that thirty director Generals of broadcasting organizations are with us here clearly shows that they share our concerns.

We have already expressed our keen regret that Mr. Maeda, President of the Conference and of N.H.K., could not stay longer owing to engagements that could not be postponed. His presence, as well as that of Mr. Rodinò, attests to the continuity of the work undertaken by the E.B.U. and we are grateful to them for having been willing to come to Paris for this Conference.

Finally, a word of gratitude is, I think, due to the Vice-President and to the Chairmen, the rapporteurs, the deputy rapporteurs and the animateurs of the commissions.

We are well aware that their role before and during the Conference has been of prime importance and that without them our work would not have met with such a success.

Allow me to close by remarking that we can be satisfied with our work in the field of educational broadcasting which is, as M. Dupont has written, « the obvious and logical extention of a civilization which feeds on pictures ».

But we have worked, and we shall work above all, for a world without barriers. The only variety we like is that in the faces of children that can be seen in the exhibition; it is for them that we are working.

Jean Thomas

Chairman of the French Delegation

Mr. President,

Now that the Conference is ending, I take this opportunity to convey to you, on behalf of the French participants at this Conference, our very cordial and heartfelt thanks. They were numerous and we had to take strong measures to limit the number, so great was the interest created by this Conference in my compatriots, heads of organizations or administrators, radio and television specialists, educationists, teachers, planners, researchers... I bear witness to the fact that the only concern of those who have been associated with our activities has been to facilitate the accomplishing of our common endeavour. Much work has been done, particularly by those who had been selected as animateurs or deputy rapporteurs to the Commissions and by others, more modestly assigned to the preparation of reports or to the selection of programmes.

I hope you have not found the size of their contribution too tiring, nor its quality disappointing. I can at least assure you, quite straightforwardly, that is has been a very great pleasure for us to work with you during these last two weeks and that it has been of great benefit to us all, myself included. Having played an active part in preparing and achieving this Conference, we of the French Delegation have perhaps the right and surely the duty to evaluate what has been achieved.

Perhaps we have tried to deal with too many topics, to account for too many experiments at different levels, too wide in scope and too dissimilar. Would it not be better in the future to have meetings on a smaller scale with a more modest agenda, which would perhaps be more efficient? It may be too early to fix a final choice but I would like to say today that our delegation considers that the objectives of efficiency and of universality are not mutually exclusive; there is time and space for both. All the Commissions of this seminar have come to the conclusion that progress in studying and resolving the problems at hand (teaching methods, training of personnel, planning exchanges or research) demands a great effort of international cooperation, now and in the years to come. And our General Rapporteur has pointed this out in his remarkable survey. This could be done before the next Conference by means of small-scale meetings and limited precise agreements between organizations or countries, on a national, regional or international basis.

The extent of this programme should not frighten us nor should it restrain our ambitions. We know the imperative and urgent nature of the problems that are facing us and we are aware of the educational needs of both youth and adults in our countries. We should not hesitate to tackle them. The means are at our disposal, voluntary contributions, bilateral and multilateral agreements, regional organizations or the great international organizations, in particular those belonging to the family of the United Nations. The suggestions, opinions and accounts of experiments that have been made at this Conference will enable all the institutions devoted to the progress of education to enrich their programmes, to render them more concrete, precise and efficient. As for the next Conference, the place, date and theme of which are to be determined of course by the E.B.U., our delegation does not think that it should necessarily be more limited or less ambitious than the present one.

Our common experience has reinforced our conviction that there is much to be gained by these wide exchanges of points of view and experiences. Those who come from countries less favoured by nature or history which still have to find the educational means corresponding to their needs have much to learn from the examples, the successes, the failures and the loopholes to be found in the past experience of the better-equipped countries.

The representatives of these countries are entitled to more than bare fact-finding; in these exchanges they have the right to expect to find points for concrete technical and material cooperation.

It is only by meeting colleagues from all corners of the world in these confrontations that our colleagues from less-favoured countries may legitimately hope for decisive progress. As for those of us who come from the so-called developed countries reputed to have benefited from a longer experience, better equipment and better trained personnel; it is well known that even for them, much remains to be done and that the education of their children and adults is far from having drawn all the possible benefits from mass media; here again wide consultations are necessary.

A precise limited programme, linked, if possible to the immediate future and, from time to time, generalized consultations seem to us to be possible prospects for the future. However, this future has to be prepared and shaped; a future which in so far as this is possible, will be what we make it.

Excuse me, Mr. President, for having contributed this note of optimism or rather, of confidence, which is inspired not by ignorance of the seriousness or the extent of

the problems but by this enriching experience which we owe to you and for which we would like to thank you once again, all of you who have given us the pleasure of welcoming you in our country.

Alvaro Galvez Y Fuentes

Director-General of Education by Audio-visual Methods
Secretaria de Educaciòn Publica, Mexico

Mr. President,

On behalf of the Mexican delegation, I would like to thank you for the wonderful opportunity that this Conference has offered us to learn about many very useful experiences and to establish extremely interesting contacts with the countries that are most advanced in the field of educational broadcasting.

On behalf of the Mexican Government, I would like to put forward an official proposal; we would in fact be most pleased to welcome in Mexico City the 4th International Conference on Educational Radio and Television Broadcasting.

There would be several advantages in this; first of all, you would have the opportunity to become acquainted with a different world, which combines three elements; the spirit of millenary civilizations, the powerful values of Western culture, and the latest achievements of modern technology. Furthermore, the countries of the Latin American continent would be given the possibility to observe the amazing vista of the best of world production in educational radio and television which must serve as an example to our organizations, which are anxious to improve their techniques and to enlarge their field of activity.

Lastly, this would confirm the universal ideal which inspires the E.B.U. implemented yesterday in Rome and Tokyo, today in Paris and tomorrow somewhere else in the world, with the permanent aim of thus stimulating international cooperation in the use of radio and television broadcasting for the benefit of all the peoples of the world.

Mr. President, if the General Assembly of the E.B.U. favours this suggestion, Mexico will welcome you with open arms, as it has always done wholeheartedly with its old friends.

Tor Gjesdal

Assistant Director-General in charge of Communication,
United Nations Educational,
Scientific and Cultural Organization

Mr. President,

On behalf of the Director-General of U.N.E.S.C.O., I have the honour to extend to you, as well as to the host organization and to its Director-General, our warmest congratulations on the sucessful accomplishment of your task.

International meetings like the present one, which bring together people from different corners of the world in order to exchange views in a sincere and open-minded manner, have always a significance of their own.

Furthermore, Mr. President, in the course of this truly international event, broadcasting specialists from developed as well as from developing countries have been able to discuss problems of common interest with educationalists, teachers and educational planners.

Another reason for the significance of this kind of assembly is that it enables each participant, normally working more or less on his own in his home-country to acquire the confidence necessary to him for the accomplishment of his task, by making him realize that he may count on the help and advice of his colleagues in the other countries of the world.

However, the most important thing is what future developments may be expected after this Conference. Clearly, the most obvious and elementary will be that, with confidence regained, all participants in this Conference will be able to propose new plans and make fresh suggestions to their respective national organizations.

The E.B.U., along with other organizations represented here, or even created here, as we have just heard, will know exactly how to channel their future efforts.

However, my main reason for taking the floor this afternoon is to confirm, on behalf of U.N.E.S.C.O., that in consultation with the E.B.U. we shall be very pleased to bring to the attention of the Member States of U.N.E.S.C.O., their governments and their educational authorities, as well as to their National Commissions for U.N.E.S.C.O., the recommendations that this Conference has formulated. We would indeed be very pleased to examine recommendations of this kind for incorporation into the recommendations of U.N.E.S.C.O., of an intergovernmental organization, or of another organization serving international cultural cooperation.

In formulating and drawing up our programmes, we shall try to take into consideration, as far as possible, the practical proposals that will have been made to us.

In the planning of its activities, U.N.E.S.C.O. has always, Mr. President, to a great extent taken account of the advice that it has received from professional organizations and, for this reason, we are very grateful for all the suggestions that have been made during the Conference and which our group of observers were able to discuss in detail with many delegates.

If I may mention one question in particular, I would like to congratulate you, Mr. President, on the efforts you have made towards a more intimate and a more direct cooperation between the broadcasting organizations and the educational authorities of each country. It has always been one of the major tasks of U.N.E.S.C.O. to promote the cooperation of those working in the field of communication and of those working in the field of education.

Jacques-Bernard Dupont

Chairman of the International Organizing Committee

Mr. President, Ladies and Gentlemen,

During these few days that we have been together you may have noticed that I have little propensity for speeches; let me therefore reassure you immediately that mine will not be very long. However, it seems indispensable to convey to you the very great pleasure, the very sincere pleasure that we from the O.R.T.F. and the French delegation have had to welcome you in Paris during these days.

But no rose is without its thorns as you will have noticed for yourself. I would like you, when reflecting on this Conference, to show indulgence for the various flaws that have occurred, and which were due it should be noted, to an imperfect evaluation of what the Conference would be. We share these errors of judgment with the International Organizing Committee, as in fact, and this is serious, we were not sufficiently aware of the extraordinary development since 1964 of the problem at hand. It is you, Ladies and Gentlemen, who have come in such great numbers to Paris, who have made us conscious of all this.

Otherwise, we would have no doubt prepared certain details in a different way. I know very well that your kindness and your courtesy would prevent you from pointing them out. But I apologize nevertheless for some of the organizational mishaps you may have noticed. They belong however to the past and it is the future that counts, the future that shines through the words you have just heard from Mr. Neri, M. Thomas, Mr. Gjesdal and Mr. Galvez y Fuentes; we are no longer speaking of this Conference but are already foreseeing the next one and it is in this respect that, with your permission, I would like to add a few words.

From the Conference, that is now coming to an end something will be retained : the International Organizing Committee, which has been to me personally a very precious and efficient help during the last year, and also the Secretariat; for the International Organizing Committee and the General Secretariat, one task is left for the future begins today. Their task is threefold; first, they will have to assemble all the documents produced during this Conference and which in their present rather dispersed state, do not, either for you or for all those who are interested in our problems, constitute a valid recapitulation of the work that has been accomplished here. We therefore plan, in the days or weeks to come, to present in a more systematic, more orderly way, the documents produced in the course of this Conference; this will be our first task.

The second one, will be to keep at your disposal, if you so wish, but also at the disposal of all those interested in the problems that we have studied, the mass of documents and experience that my colleagues and I have accumulated in the last two years.

Finally, I believe this to be extremely useful when thinking of the experience that we have shared here, our last task will consist of ensuring the junction with those of our friends who will be charged with the organization of future international meetings in this field.

Johannes B. Broeksz

President of the European Broadcasting Union

Ladies, and Gentlemen,

My task, although very pleasant, is not an easy one. The President of this Conference, Mr. Maeda, who is also President of N.H.K., and who, unfortunately, has been called away, has asked me to speak on his behalf. It is therefore now incumbent on me to try and express our gratitude for the achievements of the many people who have helped to make this International Conference on Educational Radio and Television a success and an event of prime importance.

We are much indebted to M. Fouchet, the Minister of Education of France, who honoured us with his presence at the opening session of our General Assembly.

We also express our gratitude to M. Bourges, the Minister of Information, and M. Thomas, Inspector-General of Education who in his capacity of Head of the French Delegation, also presided over the majority of meetings of the Steering Committee. He has performed his task with praiseworthy efficiency.

I turn now to M. J.-B. Dupont, Director-General of the O.R.T.F., who has been closely associated with the work of this Conference. M. Dupont, who is also a Vice-President of the E.B.U., has put at the disposal of the Conference all the resources of the O.R.T.F. and has thus proved the effectiveness of the co-operation within the E.B.U. and I can assure you, M. Dupont, that if, as you said, mistakes have been made by your organization, the apologies should be on both sides, as we also have certainly made mistakes. M. Dupont has mentioned several Vice-Presidents :

Mr. Sokorski, Mr. El Hadidi, Mr. Tironi Arce, Mr. White and Mr. Menon. To all these gentlemen, as well as to Mr. Neri and Mr. Kolade and to all the members of the Organizing Committee, I say thank you, thank you very much indeed.

We were privileged to have as Chairmen of the various commissions such eminent personalities as M. M'Bow, Mr Postgate, Mr. Schramm, M. Kammans.

The Rapporteurs and Chairmen have sustained a remarkable performance over a long period that the Commissions which they were in charge of should not only be efficiently run, but that the reports should be presented in the best conditions.

I would like also to mention Mrs. Simmerding, Chairwoman of the Selection Committee, and M. Tappolet, who was in charge of the screening and audition sessions. I should also add that we are greatly indebted to all the organizations that have provided us with documents, tape-recordings, etc., essential to the work of the Conference; we also owe much to the observers without whom this Conference would not have had the same success.

When I think of the practical organization of this Conference, I would first turn to the Secretary-General, M. Oudinot, and to the Deputy Secretary, M. de Chambure, who, with the aid of M^lle^ de Castelbajac, have worked long and hard to see our Conference crowned with success. I think also of M^me^ Weber, whose contribution has also been extremely valuable, and of M^me^ Ollivier, of the General Administration of the O.R.T.F., who has done everything to make our stay in France as pleasant and as instructive as possible.

I would also like to thank the members of the Conference Secretariat who were in charge of the mimeographing and distribution of the documents required in this sort of Conference, and the technical staff of the O.R.T.F. who not only presented the films and radio and television programmes but also enabled many more auditors than there was room to follow the programmes simultaneously.

Here we are at the end of our task. For more than two weeks of « forced labour », so to speak, about 500 observers and representatives of hundreds of organizations have had the opportunity of discussing the most important subjects in the field of radio and television.We have come from all corners of the world; we represent all races and all colours. We were able to watch and listen to some of the best programmes in the world and my impression is that we have had an extremely interesting Conference.

In the light of this experience, we are now going home to launch new programmes; but a question arises, we should ask ourselves if it remains feasible to continue as we have done so far? Can we expect to see 500 observers and representatives at each Conference?

In fact, almost 600 persons have participated in this Conference. One thing however remains certain; we must go on, as these Conferences fill the gaps and answer the needs of our respective organizations.

What is to be the scope of the next Conference? Are we again going to discuss programmes for nursery, primary and secondary schools, for universities, adults, farmers, housewives? Is it possible for us to pursue in this direction and cover such an extensive ground?

I would like to thank Mr. Galvez y Fuentes for his invitation. I do not have the authority to endorse it, for it is the General Assembly of our organization that will make the decision; however, we are very grateful for his offer.

I entirely agree with those who have stated that radio is more important now than in the past. But should we make a marked distinction between radio and television?

Personally, I do not think so.

Are we, at our next Conference, going to discuss relaying of educational radio and television through satellites?

The question is important, particularly for the bigger countries (U.S.A., U.S.S.R.) which have a unified political system. However, this question applies differently to other countries in Asia and Africa, where a number of languages, and, what is more important, various political systems co-exist; within our Union several groups of experts are now examining the questions relative to satellites.

CHAPTER 5

References

List of International Broadcasting Organizations and Delegations

European Broadcasting Union

Administrative Office
1, rue de Varembé — Geneva

Johannes B. Broeksz
President

Antony Dean
Head of the Sound Radio Section

Henrik Hahr
Director of the Administrative Office

Georges Hansen
Director of the Technical Centre

Frank Naef
Head of the Service for Specialized
Programmes and Films
Television Programmes Section

Asian Broadcasting Union

Box 3636, Sydney

Yoshinori Maeda
President

Sir Charles Moses
Secretary-General

International Radio and Television Organization
15, u Mrazovky, Prague 5

Mrs. Jarmila Chytilova
Secretariat

Jaromir Hrebik
Secretary-General

Wlodzimierz Sokorski
President

List of Organizations and Delegations
Delegates, Observers, Auditors

Africa

Radiodiffusion-Télévision algérienne
Algeria
21, boulevard des Martyrs, Algiers

M. Bouchenafa
Head of the School Television Centre

M. Oufriha
Engineer

Radiodiffusion nationale
Burundi
B.P. 1900, Bujumbura

Anselme Mbonankira
Director

Radiodiffusion du Cameroun
Cameroon
B.P. 281, Yaoundé

Auguste Moutongo Black
Director

Radiodiffusion centrafricaine
Central African Republic
B.P. 940, Bangui

Henri Koba
Director of Broadcasting

Joachim da Silva
Head of Programmes

Radiodiffusion nationale tchadienne **Chad**

B.P. 892, Fort-Lamy

André Amah Folly
Head of Programmes

Marcel Rogongar
Radio animator

Simon Sadiga
Programme animator

Radiodiffusion-Télévision congolaise **Congo Brazza**

B.P. 2241, Brazzaville

Guy Bikouta-Menga
Director of Programmes (Sound)

Mlle Hélène Bouboutou
History and geography teacher

Luc Malonga
Technical Controller

Thomas Nzengani
Teacher-Documentalist
Audio-visual Service of the Pedagogic Research Department,
Ministère de l'Éducation nationale

Edouard-Roger Okoula
Director of Television Programmes

Radiodiffusion-Télévision nationale congolaise **Congo Kinshasa**

B.P. 3171, Kinshasa

Théophile Ayimpam
Director of Programmes

Radiodiffusion du Dahomey **Dahomey**

B.P. 366, Cotonou

Ilyas Zounon
Director of Programmes

Radio Ethiopia **Ethiopia**

P.O. Box 1364, Addis Ababa

Hailé Michael Misiginna
Cultural Attaché at the Ethiopian Embassy in France

Hailé Telahun
Director
Ministry of Education and Fine Arts

Radiodiffusion-Télévision gabonaise Gabon
B.P. 150, Libreville

Pierre Rouger de Reynaud
Adviser to Television News

Radio Gambia Gambia
Bathurst

Alieu Lowe
Broadcasting Officer
Gambia government

Ghana Broadcasting Corporation Ghana
Broadcasting House
P.O. Box 1633, Accra

Eric Adjorlolo
Deputy Director-General

Miss Helen Odamtten
Head of Training Programmes

Alex T. Quarmyne
Acting Director of Television

Radiodiffusion-Télévision ivoirienne Ivory Coast
B.P. 2261, Abidjan

Mamadou Berté
Head of Radio Programmes

Raphaël Biatchon
Director of the Audio-visual Centre
Ministère de la Jeunesse,
de l'Éducation populaire et des Sports

Joric Fabre
Audio-visual specialist
Ministère de la Jeunesse,
de l'Éducation populaire et des Sports

Japi Obin
Pedagogic Service I.E.P.

M^{me} Paule Revelle
Audio-visual expert
Ministère de la Jeunesse,
de l'Éducation populaire et des Sports

Raymond Rohrbacher
Director of Educational
Radio and Television
Ministère de la Jeunesse,
de l'Éducation populaire et des Sports

Voice of Kenya
Kenya
Box 30456, Nairobi

Peter King
Head of Schools Broadcasting
Schools Broadcasting Division
Ministry of Education

Radiodiffusion-Télévision nationale malgache
Malagasy Republic
B.P. 442, Tananarive

Jocelyn Rafidinarivo
Director of Programmes (Sound)

Radiodiffusion nationale du Mali
Mali
B.P. 171, Bamako

Harouna Touré
Ministère de l'Éducation nationale

Radiodiffusion nationale
Mauritania
Avenue de la Dune,
B.P. 200, Nouakchott

Yedaly Abderrahmane
Head of Programmes

Radiodiffusion-Télévision marocaine
Morocco
1, rue Pierre-Parent, Rabat

Mustapha Kabbaj
Professor of Philosophy

Mustapha Zaimi
Educational programmes producer

Radiodiffusion du Niger
Niger
B.P. 361, Niamey

Bernard Lucas
Director

Garba Sidikou
Deputy Director

Télévision scolaire du Niger — Niger
B.P. 309, Niamey

Mme Arlette Bienfait
Researcher

Max Egly
Co-director

Mlle Annick Le Gall
Head of the Production Service

Halilou Mage
Producer

Henry Petard
Researcher

Broadcasting Company of Northern Nigeria — Nigeria
P.O. Box 250, Kaduna

Jibir H. Dukku
Head of School Broadcasts
Ministry of Education

Eastern Nigeria Broadcasting Corporation — Nigeria
P. O. Box 350, Enugu

Mrs. Mary Umolu
Producer

Nigerian Broadcasting Corporation — Nigeria
Broadcasting House, Ikoyi — Lagos

Christopher O. Kolade
Director of Programmes
Nigerian Television Service

Ernest-Ola Leyimu
Head of School Broadcasts

Western Nigeria Broadcasting Corporation — Nigeria
P.O. Box 1460, Ibadan

Mrs. Folake Thanni
School Broadcasts Division
Ministry of Education

Radiodiffusion de la République ruandaise
Ruanda
B.P. 83, Kigali

Canisius Mudenge
Ambassador of Ruanda in France

Joseph Nsengiyumva
First Secretary at the Embassy
of Ruanda in France

Radiodiffusion de la République du Sénégal
Senegal
58, avenue de la République, Dakar

Pathé Fall Dieye

Ibrahim N'Doye
Head of Programmes

Massamba Thiam
Journalist, in charge of the
National Channel

Sierra Leone Broadcasting Service
Sierra Leone
Broadcasting House, New England — Freetown

Mrs. Olive H. Benjamin
Ministry of Education

Radio Mogadishu
Somalia
P.O. Box 82, Mogadishu

Suleiman Dahir Afquarshe
Educational Programmes Organizer

Radiodiffusion du Togo
Togo
B.P. 434, Lomé

Godfried Ekué
Director

Ferdinand Koffi
Programme animator

Asmane Morou
Programme animator

Radiodiffusion-Télévision tunisienne
Tunisia
71, avenue de la Liberté, Tunis

Hassan Akrout
Director of Television

Mokhtar Ben Ajmia
Director of the Educational and Audio-visual Centre
Secrétariat d'État à l'Éducation nationale

Rachid Bouhalila
Director of Teachers' Training College

Habib Guerfal
President of the National Federation of Pupils' Parents

Mohamed Langar
Audio-visual specialist of the National Office for the Campaign against Illiteracy
Secrétariat d'État aux Affaires culturelles, à l'Information et à l'Orientation

Manoubi Larif
Trainee

Abdelhak Lassoued
Director of the National Office for the Campaign against Illiteracy
Secrétariat d'État aux Affaires culturelles, à l'Information et à l'Orientation

Mohamed Mzali
Director-General

Radio Uganda

P.O. Box 2038, Kampala

Uganda

Mrs. R. Payne
Audio-visual Education Department
Ministry of Education

Juvenal R. Tindyebwa
School Broadcasting Officer
Ministry of Education

U.A.R. Broadcasting Corporation

4, El Sherifen Street, Cairo

United Arab
Republic

Mrs. Awatif El Badri
Controller, Entertainment

Mohamed El Bassiouni
General Controller, Research

Abel Hamid El Hadidi
President of the Administrative Board

U.A.R. Television

United Arab
Republic

4, El Sherifen Street, Cairo

Wagih El Shennawy
Controller, Educational Broadcasting

Mrs. Tomader Tewfik
Controller, General Planning and Follow-up

Radiodiffusion-Télévision voltaïque

Upper Volta

B.P. 511, Ouagadougou

Jean Modeste Ouedraogo
Engineer

Raphaël Zongo
Director

Radio Zambia

Zambia

Broadcasting House,
P.O. Box RW 15, Ridgeway — Lusaka

Wilfred Chilangwa
Lecturer, Educational Television
Ministry of Education

Patrick Delahunty
Senior Education Officer
Ministry of Education

Agrippa Njungu (Observer)

America

Servicio Official de Radiodifusion — Radio Nacional — Argentina
Ayacucho 1556, Buenos Aires

Tomas Emiliano Flores
Director-General

Lorenzo A. Quesada
Deputy Director-General

Ministerio de Educacion y Cultura — Bolivia
La Paz

Carlos Luis Quiroga
Director of International Relations,
Permanent Secretary of the National Commission for Education, Science and Culture

Associaçao Brasileira de Emissoras de Radio e Televisao — Brazil
Av. Rio Branco 4 — Salas 901/903, Rio de Janeiro

Manuel Jairo Bezerra

Mrs. Alfredina de Paiva e Souza
Head of the Educational Television Service

Mrs. Marie-Jeanne Pucheu (Observer)
General Coordinator
Department of Secondary Education
Ministerio de Educaçao e Savde

Fundaçao Joao Baptista do Amaral **Brazil**

Av. NS. Copacacabana 928/10 Andar, Rio de Janeiro

Mrs. Alfredina de Paiva e Souza
Director

Société Radio Canada/Canadian Broadcasting Corporation **Canada**

1500 Bronson Avenue, Ottawa (Ontario)

David Cook (Observer)
Superintendent of Educational Television
Ontario Department of Education

Claude Fremont (Observer)
Director of the Television Teaching Service
Laval University

Eugene Hallman
Vice-President, Programming

Don Hopkins
National Film Board of Canada

Thomas Ronald Ide (Observer)
Director of Educational Television Branch
Ontario Department of Education

Lorne M. Johnston
Director of Programme Branch
Ontario Department of Education
Canadian Commission on School Broadcasting

Jean-Marie Joly (Observer)
Director General of Syllabi and Examinations
Ministère de l'Éducation, Province de Québec

Normand Jutras (Observer)
Head of University Teaching by Radio and Television
Université de Montréal

Erich Koch
Supervisor of Programmes on the Arts and Sciences,
Public Affairs

Miss Gertrude McCance
Supervisor, School Broadcasts
Manitoba Department of Education

Daniel McCarthy
Acting Network Supervisor, Schools and Youth Programming

Mrs. Christina McDougall
Programme organizer,
Public Affairs

André Martin (Observer)
Adviser
Board of Broadcast Governors

Claude Mercier
Coordinator of Programmes on the Arts
Paris Office of the Société Radio-Canada

Réal Michaud
Head of Religious, Educational and Public Service Broadcasts

Hans Möller
Producer
National Film Centre

Harold M. Nason (Observer)
Director, Elementary and Secondary Education
Canadian Education Association

Fred Rainsberry
Supervisor of School Broadcasts
and Youth Programming

Marc Thibault
Head of Educational and Public
Affairs Broadcasts

Television Universidad Catolica de Chile — Canal 13 — Chile

Avenida B. O'Higgins 406, 5° Piso, Santiago

Sergio Contardo
Cultural Assessor, Head of the Educational
Extension and Television Division

Enrique Smith
Technical Secretary to the President

Eduardo Tironi Arce
Executive President

Instituto Cubano de Radiodiffusion — Cuba

Radiocentro, Ly 23, Vedado, Havana

Nelio Contreras

Joaquim Garcia

Jose Pedroso Linares

Lisandro Otero
Vice-President
Consejo Nacional de Cultura

Radiodifusora Nacional 2a Av. Sur nº 113, San Salvador Mrs. Irma de Chavez Director Department of Educational Television Ministerio de Educacion	El Salvador
Instituto Politecnico Nacional Lindavista, Mexico 20 D.F. Miss Ma. Elena Lopez Guerra (Observer) Head of Programmes Educational Television Centre of Zacatenco Alfredo Saloma Robles (Observer) Assistant Director Educational Television Centre of Zacatenco	Mexico
Secretaria de Educacion Publica Calzada Circunvalacion y Tabiqueros, Mexico 2 D.F. Alvaro Galvez y Fuentes Director-General of Education by Audio-visual Methods	Mexico
Ministerio de Educacion Publica P.O. Box 108, Managua Mrs. Mary Coco Maltes de Callejas Teacher	Nicaragua
Radiodifusora Nacional Edificio Benard — Managua Sidar Cisneros Leiva Director-General Maximo H. Salinas Zepeda Assessor to the Director-General	Nicaragua
Ministerio de Educacion Panama Mrs. Yolanda Caramano de Sucre (Observer) Mrs. Felisia Chen de Chan (Observer)	Panama

Instituto Nacional de Teleducacion
Peru
Apartado 595, Lima

Rev. Manuel Benavides, S.J.
Director

Columbia Broadcasting System
United States
of America
51 West 52 Street, New York, NY 10019

Howard Karshaw
Director — Administration
Europe C.B.S. News

Robert C. Mayo
Managing Director
C.B.S. (Switzerland) and
C.B.S. Limited (United Kingdom)

National Association of Educational Broadcasters
United States
of America
1346, Connecticut Avenue, Washington D.C. 20036

Richard Bell (Observer)
Ampex Corporation

Rudy Bretz (Observer)
Vice-President
National Educational Science Corporation

Miss Martha Gable (Observer)
Director
Radio-Television Philadelphia Public Schools

William G. Harley
President

Tedson J. Meyers (Observer)
Television specialist
Peace Corps

Stanton W. Saltzman (Observer)
Director
Department of medical communications
Temple University

William H. Seibel (Observer)
Director
Office of Instructional Television
Temple University

I. Keith Tyler (Observer)
Professor of Education
Ohio State University

Harold Wigren (Observer)
Television consultant
National Education Association

National Educational Television — United States of America
10 Colombus Circle, New York, NY 10019

F. Basil Thornton
Director, International Affairs Division

David Walker
Yale University

John F. White
President

Time-Life Broadcast Inc. — United States of America
Time and Life Building, Rockefeller Center, New York, NY 10020

Edward Hamilton
Staff designer, Research and Development

M. McGesch (Observer)

Robert Lang
Representative in Europe

Sig Mickelson
Vice-President

Norman Ritter
Assistant Director, Research and Development

Norman Ross
Vice-President, Research and Development

United States Information Agency — United States of America
330, Independence Av. S.W., Washington 25 D.C.

Leslie S. Brady
Counsellor for Public Affairs
United States Embassy in France

Mr. Dizard

Leonard H. Marks
President

Asia

All India Radio — India

Broadcasting House, Parliament Street, New Delhi 1

V. K. Narayana Menon
Director-General

National Iranian Television and National Iranian Radio — Iran

Meydan Arc, Teheran

Mr. Aatefy
Director-General of the Radio

Mr. Pourchaltchi
Press Attaché at the Iranian Embassy in France

Instructional Television Trust — Israel

14, Klausner Street — Tel Aviv

Robert Gottlieb
Member of the Board

Max Rowe
Member of the Board
Chief Executive

Arié Shuval
Director of Education

Haim Tchelet
Producer
Mrs. Hava Tidhar
Sociologist

Kol Israel/Israel Broadcasting Authority

Israel

Broadcasting House — Jerusalem

Mrs. Miriam Herrmann-Badt
Head, Youth and School Broadcasting

Mrs. Leah Porath-Goor
Head of Programmes

National Association of Commercial Broadcasters in Japan

Japan

Bungei Shunju BLDG — 3, Kioi-Cho, Chiyoda-Ku, Tokyo

Yasui Mistuaki
Director, Educational Department
Nippon Educational Television Network Co.

Nippon Hoso Kyokai

Japan

2-2, Uchisaiwai-Cho, Chiyoda-Ku, Tokyo

Shigenari Futagami
Assistant Manager, School Broadcast Division,
Education Department

Masayuki Kobayashi (Observer)
Chief Representative, General
Bureau for Europe — Paris

Yoshinori Maeda
President

Tsutomu Morimoto
Manager of School Broadcast
Division
Education Department

Akira Takasaka
Chief Coordinator
The Secretariat, the Japan Prize
Education Department

Akio Yamashita
Chief Representative
Rome Bureau

Tadashi Yoshida
Director of Education Department

Radiodiffusion nationale Lao
Laos
Vientiane

Derick Garnier (Observer)
Adviser on school radio broadcasting

M. Chanthadara
Cultural Adviser at the Laotian Embassy in France

Radio Malaysia
Malaysia
Peti Surat Pos 1074,
Bangunan Persekutuan, Kuala Lumpur

Daud Mokhtar (Observer)
Head of School Broadcasts

Inter-Island Broadcasting Corporation
Philippines
A. Soriano Building, Ayala Av. Makati, Rizal

Rev. Leo H. Larkin, S.J.
Director
Metropolitan Educational Television Association

Radio Okinawa Co. Ltd.
Ryukyu Islands
P.O. Box 405, Harborview, Naha, Okinawa

Yoshinobu Akamine
Director of Education Department
Ryukyu Government

Seiichi Kishimoto
Director and Secretary General

Jugo Thoma
President

Radiodiffusion-Télévision syrienne
Syria
Ommayad Square, Damascus

Ali Nessib Ikhtiar
Director of Programmes

National Educational Television Station
Taiwan
Taipei

Mr. Chiu Cheng Ho
Professor

Thai National Broadcasting Station — **Thailand**

Bangkok

Mrs. Napa Bhonghibhat
Head, School Broadcasts Section
Education Broadcasting Service
Ministry of Education

Mrs. Boonsom Jatikanond
Bangkok Municipality Television Authority

Mrs. Khunying Ambhorn Meesook
Director, Education Broadcasting Service
Ministry of Education

Chamnong Rangsikul
Chief, Division of External Relations
National Broadcasting Service
Department of Information

Momrajwongs Saisingh Siributr
Head of Production,
Education Broadcasting Service
Ministry of Education

Turkish Radio and Television — **Turkey**

Mithatpasa Caddesi 37, Ankara

Sükrü Güzel
Director of the Education Division
Ministry of Education

Semih Tugrul
Director of Television programmes

Europe

Österreichischer Rundfunk

Austria

Argentinierstrasse 30a, Vienna IV

Franz Gregora
Head of School Broadcasting

Belgische Radio en Televisie

Belgium

18, Place Eugène Flagey, Brussels 5

Nicolas Bal
Director of Television

Julien Gorus
Head of School Broadcasting

Hubert Hermans
First Programmer, School Broadcasting

Jo de Meester
First Programmer, School Broadcasting

J. Mertens
Inspector
Ministère de l'Éducation nationale et de la Culture

Jérôme Verhaeghe
Head of Television Educational Services

Radiodiffusion-Télévision belge

Belgium

18, Place Eugène Flagey, Brussels 5

Léon Daco
Head of Department, School Television

Maurice Depré (Observer)
Chief Adviser to the African Service

Pierre Deschamps
Head of the Youth-Education Television Service

Canon Laurent Grimmonprez
Secretary-General
Fédération nationale de l'Enseignement catholique

Louis-Philippe Kammans
Director of Television Programmes

Jean Mogin
Director of Talks (Radio)

Robert Wangermee
Director-General

Radio et Télévision bulgares — Bulgaria

4 Bld Dragan, Zanvok Strasse, Sofia

Mrs. Ninova Radca
Inspector
Section of Technical Aids in Teaching
Ministry of Education

Mrs. Kraleva Snejina
Chief Editor
Radio Sofia

Ceskoslovensky Rozhlas — Czechoslovakia

12 Vinohradska, Prague 2

Josef Branzovsky
Head of the Theoretical Group of the Research Service

Mr. Budil

Milan Maralik

Ceskoslovenska Televize — Czechoslovakia

Jindrisska 16, Prague 1

Lubor Pok
Assistant Head of Children's and Youth Broadcasting

Danmarks Radio — Denmark

Rosenorns Alle, 22, Copenhagen V

Erik Carlsen
Managing Director

Valdemar Christensen
Head of School Broadcasting

Knud R. Heinesen
Head of Adult Education

Jørgen Juulsgaard
Daily Manager of School Broadcasting (Sound)

Sigurd Møller Petersen
Head of School Broadcasting Working Committee

Peder Nørgaard
Head of Radio Council

Erik Petersen
Programme Editor

Mogens Vemmer
Programme Editor

Oy. Yleisradio AB.

Finland

Unioninkatu 16, Helsinki 13

Nils Göran Engström
Head of School Radio Department (Swedish Section)

Jussi Koskiluoma
Director of Programmes

Erkki Ojanen
Head of School Radio Department (Finnish Section)

Martin Rehnberg
Head of School Television Department (Swedish Section)

Mrs. Meri Riuttu
Head of Language Section

Office de Radiodiffusion-Télévision française

France

116, avenue du Président Kennedy, Paris 16e

The French Delegation, led by its Chairman Monsieur Jean Thomas, Chief Inspector of Education, is presented here under the title of the Office de Radiodiffusion-Télévision française. It included, in addition to representatives of the Office, representatives of the various ministerial departments with educational responsibilities, and among these in the first place, representatives of the Ministry of Education.

Jacques Anjubault
Head of Documentary and Cultural Programmes
Television Service

Henry Appia
Senior Lecturer, Faculté des Lettres de Paris
Ministère de l'Éducation nationale

Francis Barbedor
In charge of Pedagogic Studies and Research
Secrétariat d'État aux Affaires étrangères, chargé de la Coopération

Gabriel Beis
Head of the Educational and Training Service
Secrétariat d'État aux Affaires étrangères, chargé de la Coopération

Bernard Blin

Head of Studies and Documentation
Department of External Relations

Pierre de Boisdeffre

Director of Sound Broadcasting

Yves Brunsvick

Secretary-General of the French
Commission for U.N.E.S.C.O.
Ministère de l'Éducation nationale

André Clavé

Head of the Training Studio, Office de Coopération Radiophonique
Secrétariat d'État aux Affaires étrangères, chargé de la Coopération

Philippe Dechartre

Secretary General of the University Association for the Development of Education and Culture in Africa and Madagascar
Secrétariat d'État aux Affaires étrangères, chargé de la Coopération

Henri Dieuzeide

Head of School Broadcasting
Institut pédagogique national
Ministère de l'Éducation nationale

Mme Dina Dreyfus

Inspector in the Academy of Paris
Ministère de l'Éducation nationale

Jean Dumaurier

Technical Adviser
Délégation générale à la Promotion sociale

Jacques-Bernard Dupont

Director-General

Mlle Marie-Madeleine Jobard

Head of the Educational Bureau
Ministère des Affaires étrangères

Pierre Kevorkian

Head of the Vocational Training Centre
General Administration Department

Jacques de La Ferrière

Head of the Radio-Television-Cinema Bureau
Ministère des Affaires étrangères

Jean-Pierre Leclerc

Technical Adviser to the Minister of Education's Cabinet
Ministère de l'Éducation nationale

Robert Lefranc

Director of the Audio-visual Centre, École normale supérieure de Saint-Cloud
Ministère de l'Éducation nationale

Yves Le Gall

In charge of the Bureau for Research and Coordination
Secrétariat d'État aux Affaires étrangères, chargé de la Coopération

Jacques Martin

Inspecteur général de l'Instruction publique
Ministère de l'Éducation nationale

Jean de Saint-Jorre

Head of the Arts Teaching Service
Ministère des Affaires culturelles

Pierre Schaeffer

Head of the Research Service

Bertrand Schwartz

Director
Centre universitaire de Coopération économique et sociale, Institut pour la formation des adultes, École nationale supérieure de métallurgie et de l'industrie des mines de Nancy, Délégation générale à la Promotion sociale

Jean Thomas

Inspecteur général de l'Instruction publique
Ministère de l'Éducation nationale

In addition, the undermentioned followed the work of the Conference, in a temporary capacity :

M^me^ Maguy Ader
Ibrahim Ba
Pierre Barbier
Jean Breton
Pierre Darasse
Maurice Debrune
Claude Ernoult
Louis Foucher
Roland Garnier
Georges Gaudu
Jean Keim
Claude Laurent
Jean Lemoine
M^me^ Agathe Mella
Louis Menard
Louis Mesuret
Sauveur Minéo
M^lle^ Anne Montenot
Guy Perriot
M^me^ Suzanne Perriot
Georges Poinssac
Robert Quinot
Joseph Rovan
Severin Strasfogel
Jean Valérien
René Wilmet

Arbeitsgemeinschaft der Öffentlich-Rechtlichen Rundfunkanstalten der Bundesrepublik Deutschland

West Germany

c/o Bayerischer Rundfunk,
8 Munich 2, Rundfunkplatz 1

Mr. Flemmer (Auditor)

Bayerischer Rundfunk

Leonhard Froese
Institute of Educational Research
Universität Marburg — Lahn

Walter Fuchs (Observer)
Head of the « Telekolleg » of Science
Bayerischer Rundfunk

Heinz Garber (Observer)
Head of Youth and School Broadcasting
Saarländischer Rundfunk

Joseph Göhlen (Observer)
Television programme Service for
Youth and Adult Education
Hessischer Rundfunk

Gert Haedecke (Observer)
School Broadcasting (Sound)
Südwestfunk

Heribert Heinrichs
Professor
Pädagogische Hochschule

Werner Hess
Intendant of the Hessischer Rundfunk

Gerd Kadelbach
Head of Culture and Education Department
Hessischer Rundfunk

Klaus Katz (Observer)
Head of School Television
Westdeutscher Rundfunk

Mrs. Margarete Keilhacker (Observer)
Wissenschaftliches Institut für Jugend und Bildungsfragen in Film und Fernsehen

Martin Keilhacker
Director
Wissenschaftliches Institut für Jugend und Bildungsfragen in Film und Fernsehen

Mrs. Ursula Klamroth (Observer)
Programme Editor
Norddeutscher Rundfunk

Edmund Kösel (Observer)
Wissenschaftliches Institut für Jugend und Bildungsfragen in Film und Fernsehen

Joachim Krause (Observer)
Friedrich Ebert Stiftung

Herbert Marchl
« Telekolleg »
Bayerischer Rundfunk

Mrs. Marga Nestel Begiebing
Head of School Broadcasting (Sound)
Westdeutscher Rundfunk

Franz Reinholz
Director of Programmes
Norddeutscher Rundfunk

Rudolf Riedler (Observer)
School Broadcasting Service
Bayerischer Rundfunk

Dieter Ross (Observer)
Hans Bredow Institut für Rundfunk und Fernsehen

Gerhard Schaefer (Observer)
Director of Educational Broadcasts
Radio Bremen

Mrs. Anne-Marie Schambeck (Observer)
Head of School Broadcasting Department
Bayerischer Rundfunk

Alois Schardt (Observer)
Bayerischer Rundfunk

Mrs. Gertrud Simmerding
Head of School and Family Television Programmes
Bayerischer Rundfunk

C. Wallenreiter
Intendant of the Bayerischer Rundfunk
Intendant of the A.R.D.

Paul Wallnisch (Observer)
Sender Freies Berlin

Helmut Winter (Observer)
Director,
International Zentralinstitut für das Jugend und Bildungsfernsehen

Zweites Deutsches Fernsehen — West Germany

Postfach 343, Grobe Bleich 40, 65 Mainz

Otto Beger
External Relations

Mrs. Anna Luise Heygster
External Relations

Hans Kimmel
Head of the Editorial section of the Planning Service

Willy Strzelewicz
Pädagogische Hochschule

Mrs. Herta Sturm
Head of Educational Broadcasting

Erich Wasen
Professor

National Hellenic Broadcasting Institute

Greece

16, rue Mourouzi, Athens

Mr. Spyrndakis
Cultural Attaché
Greek Embassy in France

Magyar Radio es Televizio

Hungary

Brody Sandor — U. 5-7, Budapest VIII

Mrs. Erzébet Havril
Chief Programme Editor
School Broadcasting (Sound)

Endre Kelemen
Department Head, School Television

Kàlmàn Kiss
Vice-President

Mrs. Helga Parkai
Music teacher

György Sandor
Editor-in-chief of Educational Programmes

Rikisutvarpid

Iceland

Skulagat 4, Reykjavik

Wilhjàlmur Gislason
Director-General

Radio Telefis Eireann

Ireland

Donnybrook, Dublin 4

Miss Maev Conway
Head of Children's and Educational Programmes

Michael Garvey
Controller of Programmes

Justin Keating
Head of Agricultural Programmes

Kevin McCourt
Director-General

Andrew Woods
Schools Broadcasting Officer

Radiotelevisione Italiana **Italy**

Viale Mazzini 14, Rome

Mario Forte
Director-General of the Junior Secondary School Department
Ministry of Education

Paolo Gonnelli
Assistant Director of Cultural Television Programmes

Italo Neri
Director of the Telescuola Centre

Mrs. Maria Grazia Puglisi
Head of Teaching, Telescuola Centre

Compagnie Luxembourgeoise de Télédiffusion **Luxembourg**

Villa Louvigny, Luxembourg

Jean-Loup Berger (Observer)
Artistic Director

Broadcasting Authority - Malta and Malta Television Service **Malta**

12 Old Treasury Street, Valletta

Robin Allan
Television staff
The British Council and the Broadcasting Authority

Stichting Nederlansche Radio-Unie **Netherlands**

Nederlandse Televisie Stichting

Heuvellaan 34, P.O. Box 150, Hilversum

Peter Van Amstel
Stichting Nederlandse Onderwys Televisie

M. P. Bajetto (Observer)
Deputy Head of the Radio, Television and Press Service
Ministry of Culture, Recreation and Work

J. L. M. Van Belle

M. N. Bollen
Teleac/Television Academy

Johannes B. Broeksz
Vice-President of N. R. U.
President of the Omroepvereniging Vara

A. Robert Eygenhuysen
Head, School Radio and Television
Nederlandse Christelijke Radio Vereniging

Ralph Hakkert
Director
Stichting Nederlandse Onderwys Televisie

H. Van der Horst
Teleac/Television Academy

Wim Janssen
Stichting Nederlandse Onderwys Televisie

Henk Nykamps
Head, School Radio and Television
Katholieke Radio-Omroep

J. Polman
Secretary General
Stichting Nederlandse Onderwys Televisie

H. Van Praag
Teleac/Television Academy

M. Verhoeve (Observer)
Department Director General
Ministry of Culture, Recreation and Work

William Wagenaar
Member of the Council, in charge of programmes
Stichting Nederlansche Radio Unie

F. E. Wermer
Teleac/Television Academy

L. M. Wuest
Assistant Director
Katholieke Radio-Omroep

A. Zuiderveld
Stichting Nederlandse School Radio

Norsk Rikskringkasting — Norway

Bjornsons Plass 1, Oslo 3

Henrik Bargem
Minister of Education

Hans Julius Birkrem
Head of School Television

Haakon Björn-Hansen
Programme Editor, School Broadcasting

Hans Jacob Ustvedt
Director General

Polskie Radio i Telewizja — Poland

20, Noakowskiego, street, Warsaw

Jacek Kunicki
Programme Editor

Wlodzimierz Sokorski
President of the Polish Radio and Television Committee

Janusz Tymowski
Professor
Technical University of Warsaw

Ignacy Waniewicz
Chief Programme Editor
Director of Educational Television Programmes

Radiotelevisão Portuguesa

Portugal

44, Alameda das Linhas de Torres, Lisbon

Carlos Miguel Araujo
Director of Programmes

José Baptista Martins
Inspector
Institute for Audio-visual Teaching Methods

Antonio Carlos Leonidas
President
Institute for Audio-visual Teaching Methods

Radiodifuziunea si Televiziunea Romana

Rumania

Bucarest

Andrei Covrig
Chief Editor Youth Television Programmes

Ioan Grigorescu
Vice-President

Mrs. Ileana Pop
Editor Youth Radio Programmes

Victor Popa
Chief Editor Youth Radio Programmes

Mrs. Maria Popescu
Director
Ministry of Education

Juliu Tundrea
Deputy Chief Editor Cultural Programmes

Dirección General de Radiodifusión y Televisión

Spain

39 avenida del Generalisimo, Madrid

Anibal Arias
Head of Educational Programmes,
Radio Nacional de España

Ricardo Arias
Producer
Television Española

Antonio M. Campoy
Head of Cultural Programmes
Radio Nacional de España

Jesus Garcia Jimenez
Head of Educational Programmes Department
Television Española

Sveriges Radio Sweden

Box 955, Stockholm 1

Lars Ag (Observer)
Programme Organizer
Ministry of Education

Bertil Allander (observer)
School Broadcasting

Sten-Sture Allebeck
Assistant Head of School Broadcasting

Gunnar Berg
Assistant Head of School Material Section

Vidar Blom (Auditor)
School Material Section

Axel Breitholz
Head of School Radio Section

Mrs. Suzanne Dettner (Auditor)
School Television

Lars Ekholm (Auditor)
School Television

Bertil Forsman (Auditor)
School Radio

Dennis Gotobed (Observer)
School Radio Producer

Karin Holmberg (Auditor)
School Material Section

Mrs. Birgit Janrup (Auditor)
School Television

Lennart Johansson (Auditor)
School Television

Mrs. Marie-Anne Johnson (Auditor)
School Radio

Mrs. Keity Klynne
Assistant Head of School Television

Leif Kristiansson (Auditor)
Planning Section

Mrs. Louise Kumlien (Observer)
Producer of foreign language courses

Eddie Levin
Head of School Television

Bengt Linne (Observer)
Television Producer

Curt Lundberg (Auditor)
School Radio

Rolf Lundgren
Head of School Broadcasting

Mrs. Gerd Mellvig-Ahlstrom
Assistant Head of School Radio Section

Eddie Ploman
Adviser on Radio and Television

Mrs. Margit Regolo (Observer)
Television Producer

Gunnar Rugheimer
Adviser to the Administration

Olof Rydbeck
Director-General

Gun Simon (Auditor)
School Material Section

Miss Ingela Sjölander (Auditor)
School Material Section

Manne Stenbeck (Auditor)

Gunnar Strom (Observer)
Producer

Nils-Erik Svensson (Auditor)
School Radio

Jan Tullsten (Observer)
School Radio Producer

Mrs. Britta Wallner (Observer)
School Radio Producer

Société suisse de Radiodiffusion et Télévision — Switzerland

Giacomettistrasse 1, Bern

René Dovaz
President, Commissions nationales suisses
de radio et télévision scolaires

Stanislas Gard
Head of Department
Télévision suisse romande

Hans Oprecht
President
Société anonyme pour la publicité à la télévision

Max Schärer
Head of the Education and Family Department
German Swiss Television

Frank R. Tappolet
Director of the International E.B.U.
Seminar on School Television (Basle)

British Broadcasting Corporation United Kingdom
Broadcasting House, London W.1

Kenneth Bailey
Senior Education Officer
School Broadcasting Council for the United Kingdom

Christopher Dilke
Head of English by Radio and Television

Kenneth Fawdry
Head of School Broadcasting, Television

Donald Grattan
Head of Further Education, Television

Geoffrey Hall
Assistant Head of School Broadcasting, Television

Francis Norman Lloyd Williams
Head of School Broadcasting (Sound)

Richmond Postgate
Controller, Educational Broadcasting

Christopher Thorne
Head of Further Education, Radio

Centre for Educational Television Overseas United Kingdom
The Studio, Nuffield Lodge, Regent's Park, London N.W.1

Alexander Edington (Observer)
Kits Department

Brian Kirby (Observer)

Lawrence Lawler
Head of Production

John Murton
Head of Information and Research

Commander John Proud
Director

Thomas Singleton
Head of Training

Independent Television Authority and Independent Television Companies Association

United Kingdom

70 Brompton Road, London S.W.3

Sir Gerald Barry (Observer)
Educational Adviser
Granada Television Network Ltd.

Brian Durkin (Auditor)
Ulster Television Ltd.

Mrs. Elizabeth Garrett (Auditor)
Schools Liaison Officer
Grampian Television Ltd

Robert Heron
Head of Education
Associated Television Ltd.

Charles Jones (Auditor)
Westward Television Ltd.

Robert Mc Pherson
Head of Education
Scottish Television Ltd.

Guthrie Moir
Executive producer
Rediffusion Television Ltd.

Michael Redington
Features Supervisor
A.B.C. Television Ltd.

Miss Marjory Ruse (Auditor)
Producer
A.B.C. Television Ltd.

Brian Shallcross (Observer)
Schools executive
Tyne Tees Television Ltd.

Gordon Thomson (Auditor)
Programme Director
Grampian Television Ltd.

Miss Janet Wadsworth
Education Officer
Granada Television Network Ltd.

Joseph Weltman
Education Officer
Independent Television Authority

Edwin Whiteley (Observer)
Head of School Broadcasting
Rediffusion Television Ltd.

State Committee for Broadcasting and Television
Pjatnitskaja Ulitza 25, Moscow

Union of Soviet Socialist Republics

Nicolas Birukov
Member of the Direction of the Committee and Chief Editor
Television News

Mr. Korolev
Correspondent in Paris

Jugoslovenska Radiotelevizija
70, Borisa Kidrica Street, Belgrade

Yugoslavia

Salih Ćilerdžiu
Chief Programme Editor School Radio
Radio Priština

Mrs. Djurdjevka Doneska-Trenčeska
Programme Editor, School Radio
Radiotelevision Skopje

Ivo Furlan
Psychologist
Institute for the Advancement of Primary Education

Mrs. Bojana Jakovljevic
Educational Adviser for Television
Institute for Teaching Methods and School Equipment

Mrs. Galina Jankovic
Programme Editor, School Radio
Radio Television Belgrade

Miroljub Jevtovic
Head of Educational Programmes
Television Belgrade

Hrvoje Juračić
Chief Programme Editor, School Broadcasting
Television Zagreb

Mrs. Evgenija Kacavolu
Educational Programme Editor
Television Skopje

Mrs. Nasiha Kapidžić
Programme Editor School Radio
Sarajevo Radio and Television

Mrs. Palma Katalinić
School Programme Editor
Television Zagreb

Tibor Korom
Chief Programme Editor, School Radio
Radio Novi Sad

Mrs. Marija Manolić

Chief Editor Educational Radio Programmes
Radio Television Zagreb

Mrs. Alice Maračič

Programme Editor, School Radio
Radio Television Zagerb

Mateja Matevski

Director
Television Skopje

Mrs. Emilija Migic

School Programme Editor
Television Zagreb

Milorad Obradović

Educational Programme Editor
Television Belgrade

Mrs. Ela Peroci

Programme Editor, School Radio
Radio Television Belgrade

Mile Poposki

Chief Editor, Educational Programmes
Radio Television Belgrade

Laza Rosić

Director
Institute for Teaching Methods and School Equipment

Mrs. Bahra Samic

Head of the Service for the Coordination of the School Radio Programmes of the Yugoslav Stations

Karoly Silagy

Programme Editor, School Radio
Radio Novi Sad

Zaim Topčič

Programme Editor, School Radio
Radio Television Sarajevo

Dragi Tozija

Director General
Radio Television Skopje

Stefan Uskokovič

Chief Programme Editor, School Radio
Radio Television Belgrade

Zdravko Vukovič

Director-General
Radio Television Belgrade

Vladimir Zivkovič

Educational Programme Editor
Television Belgrade

Oceania

Australian Broadcasting Commission
Australia
145, Elizabeth Street, Sydney

Eric K. Sholl
Representative in Europe

Frank Watts
Director of Education

Tonga Broadcasting Commission
Tonga
P.O. Box 36, Nukualofa

Mr. Moala

List of personalities

A certain number of specialists and personalities who were neither members of the delegations sent by the organizations nor observers participated in various capacities in the work of the Conference.

Malcolm S. Adiseshiah	Deputy Director-General, United Nations Educational, Scientific and Cultural Organization
Harou Kouka	Minister of Education — Niger
Rex Lee	Governor of American Samoa
Amadou Mahtar M'Bow	Minister of Education — Senegal
Victor Bachy	President of the Centre of Communication Techniques Université catholique de Louvain — Belgium
Jean Besombes	Chargé de mission in the Department of External Relations Office de Radiodiffusion-Télévision française — France
Étienne Brunswic	Head of the integrated television circuits section Institut pédagogique national — France
Hymen Chausow	Dean of Television Instruction Chicago City College — United States of America
Philip H. Coombs	Director International Institute for Educational Planning
Mrs. Helen Coppen	Professor University of London, Institute of Education — United Kingdom
Michel Debeauvais	Economist Organization For Economic Cooperation and Development
Michel Denel	Assistant Head of the Educational Application Department Institut pédagogique national — France

Ricardo Diez-Hochleitner	Director of the Department of Planning and Financing of Education United Nations Educational, Scientific and Cultural Organization
Vicente Roberto Di Pasquale	Director of the Department of Audio-visual Teaching Ministerio de Educacion y Justicia — Argentina
Henri Domerg	Chargé de mission in the Prime Minister's Cabinet, President of the Standing Commission dealing with the use of audio-visual techniques in education — France
Maurice Fauquet	Head of Research Centre audio-visuel de l'École normale supérieure de Saint-Cloud — France
Georges Friedmann	Director of Studies École des Hautes Études — France
George Gropper	Program Director, Instructional Media Studies American Institute for Research — United States of America
Mrs. Hilde Himmelweit	Professor of Social Psychology The London School of Economics and Political Science — United Kingdom
Arthur A. Lumsdaine	Chairman Department of Psychology University of Washington — United States of America
Jack Lyle	Associate Professor of Journalism University of California — United States of America
Pierre Mandl	Sociologist — Switzerland
Jack McBride	General Manager Nebraska Educational Television Commission — United States of America
Wilbur Schramm	Director Institute for Communication Research Stanford University — United States of America
John Scupham	Former Controller Educational Broadcasting British Broadcasting Corporation — United Kingdom
Warren Seibert	Head, Instructional Media Research Purdue University — United States of America
Edward Stasheff	Professor of Television The University of Michigan — Ann Arbor — United States of America
Michel Tardy	Senior Lecturer Faculté des lettres et sciences humaines de Strasbourg — France
M. Tranchard	Director of Teaching Ministère de l'Éducation nationale — Niger
George Wedell	Professor Department of Adult Education — Manchester University — United Kingdom

List of Observers and Auditors

Mrs. Delia de Agudo Freytes	Professor of Pedagogy Universidad Central de Venezuela — Venezuela
Antoine Allard (Auditor)	President of OXFAM — Belgium
Jean d'Arcy	Director Audio-visual Information Services — United Nations
J. Auerham	Specialist in Economic Research Office of Economic Analysis — U.N.E.S.C.O.
Mme Françoise Bachy	Professor Institut des Arts de diffusion — Belgium
A. Baez	Director Science Teaching Division — U.N.E.S.C.O.
Duncan S. Ballantine	Assistant Director, Projects Department in charge of Education — I.B.R.D.
C. Bellahsene	Expert in Mass-media, Literacy Division — U.N.E.S.C.O.
Guy Bloomer	Principal The Thomson Foundation Television College — United Kingdom
M. J. Van Bol	Head of Training Courses Institut belge d'Information et de Documentation — Belgium
Luciano Bolis	Head, Cinema and Television Division — Council of Europe
Mrs. Nicole Brichet	Researcher on educational television Centre expérimental de cinéma et de télévision « Image et son » — Belgium

Mrs. Suzanne B. de Bujan	Coordinator, School Radio Department of Audio-visual Teaching Ministerio de Educacion y Justicia — Argentina
Jean Calvel	Radio and Visual Information Division — U.N.E.S.C.O.
Marc Carriche	Information Service — I.L.O.
M. Carril	Department of Audio-visual Teaching Ministerio de Educacion y Justicia — Argentina
Henry R. Cassirer	Chief, Division of use of mass-media in out-of-school education — U.N.E.S.C.O.
Jean-Jacques Chagnon	European delegate National Film Board — Canada
Kenneth Cripwell	Consultant in educational television Union minière du Haut Katanga — Belgium
Rev. Father Culkin	Adviser on educational television Fordham University — Ford Foundation — United States of America
Rev. Father Declerq	International Catholic Association for Radio and Television
Carlos Delgado Pereira (Auditor)	Former Deputy Director Instituto Nacional de Radio y Television de Colombia — Colombia
Mrs. Teresa Donoso Loero	Head of Television Programmes Fundaciones de Vida Rural — Chile
Herbert Dordick	Engineer The Rand Corporation — United States of America
René Dovaz	President of the International Radio and Television University
J. Droog (Auditor)	Inspector of Primary Education in the Netherlands Antilles, National Netherlands Commission for U.N.E.S.C.O. — Netherlands
Mrs. Catherine Duncan	Executive Secretary International Federation of Film Societies
Guy-Léopold Dupret (Auditor)	Student Université de Louvain — Belgium
H. J. Edwards	Department of Education and Science — United Kingdom
W. Farr	Director Office of Public Information — U.N.E.S.C.O.
Curt Fernau	Workers' Educational Service — I.L.O.
Guy Gautier	International League for Child and Adult Education
S. A. E. Geerlings	Teacher of post-primary education in Surinam — Netherlands National Commission for Education, Science and Culture
J. de Geus	Agricultural information specialist Information Division — F.A.O.
M. Gibson Parker	Director, United Nations Information Centre in Paris

Tor Gjesdal	Assistant Director General in charge of communication — U.N.E.S.C.O.
Michael Glover	Director, Educational Aids Department The British Council — United Kingdom
F. Goodship (Deputizing)	Division of development of mass-media — U.N.E.S.C.O.
Rev. Marcel Gosselin	World Association for Christian Broadcasting
Mme. Govaerts	Director of Research Centre national de sociologie, travail, loisirs et culture — Belgium
Mrs. Lina Graham	Television teacher of French Nova Scotia School Television — Canada
James D. Halloran	Director Mass Communication Research Centre University of Leicester — United Kingdom
J. Handler	Director, Information Division — W.H.O.
André Isambert	President of the Board of Administration International Federation for Parent Education
Michel Jacquart	Head of the Press Division — O.E.C.D.
Mrs. Lucia Joannon Riesco	Director of the tele-clubs Fundaciones de Vida Rural — Chile
D. Kallen	Administrator at the Direction of Scientific Affairs — O.E.C.D.
Rev. Ciaran F. Kane	Wah Yan College — Hong-Kong
R. Kent-Jones (Deputizing)	Division of Curriculum — U.N.E.S.C.O.
Altamir Kilic	Head of the Information Service — U.N.I.C.E.F.
John B. Kitching	Association of Teachers in Colleges and Departments of Education — United Kingdom
A. F. Knowles	Director, Instructional Aid Resources York University — Canada
Armand Lanoux	Secretary General International Radio and Television University
Robert Lefranc	Secretary General International Council for the advancement of audio-visual media in education
P. Lengrand	Chief, Division of Adult Education — U.N.E.S.C.O.
J. Leroy	In charge of information — W.H.O.
Leo Lesch	United Kingdom
A. Lestage	Chief, Division of Curriculum — U.N.E.S.C.O.
Sylvain Lourié	Principal Administrator Division of Financing of Education — U.N.E.S.C.O.

Norman McKenzie	**Director** **Centre for Academic Services, University of Sussex — United Kingdom**
John Maddison	**President of the International Film and Television Council**
Pierre Maistriaux	**Reader** **Institut des Hautes Études des communications sociales — Belgium**
R. Marathey	**Expert in educational radio — U.N.E.S.C.O.**
Father Guy Martinot	**Collège philosophique et théologique de Louvain** **Reader at the Institut des Arts de diffusion — Belgium**
Philippe Marton	**Professor** **Faculté des Sciences de l'Éducation — Université Laval — Canada**
R. Maybury	**Science Teaching Division — U.N.E.S.C.O.**
Miss Sylvia Mondoñedo	**Executive Assistant** **Center for Educational Television** **Ateneo de Manila University — Philippines**
P. Navaux	**Chief, Division of development of mass media — U.N.E.S.C.O.**
F. N'Diaye	**Expert in educational television — U.N.E.S.C.O.**
Thomas Neil	**Director** **The Thomson Foundation — United Kingdom**
José Agustin **Pulido Tellez**	**Director of the Audio-visual Centre** **Universidad Nacional de Colombia — Colombia**
Charles Riou	**Professor** **Universidad de Bogota — Colombia**
K. E. Robinson	**Senior Education Officer** **Department of Education — Bermuda**
Mrs. Ruano Vargas	**Administration of Audio-visual Education** **Secretaria de Educacion Publica — Mexico**
Amadou Sakho	**In charge of audio-visual teaching** **Society of African Culture**
Mrs. M. Shatton (Deputizing)	**Division of use of mass-media in out-of-school Education — U.N.E.S.C.O.**
Alphonse Silbermann	**Director of the Institutes for Mass Communication Research of the University of Lausanne and the University of Cologne**
V. Skofenko	**Division of use of mass-media in out-of-school Education — U.N.E.S.C.O.**
Michael Stephens	**Secretary** **Commonwealth Broadcasting Conference**
J.-P. Strick	**Deputy Head of Film Distribution and Services Division** **British Film Institute — United Kingdom**
H. Van Stuwe	**Chief, Radio and Visual Information Division — U.N.E.S.C.O.**

Clifford Swindells	Principal Lecturer in Education Avery Hill College of Education — United Kingdom
Mrs. Rabail Thabit	Director, Educational Television Section, Audio-visual Centre Ministry of Education — Irak
S. Thornton	Scottish Education Department — United Kingdom
Miss R. Townson	Head of the Radio and Television Section of the Information Service — O.E.C.D.
Rev. Jose M. de Vera	Director of Sophia University Television Center — Japan
Rev. Rafael Vall Sera	Director of the Radio and Television Department Universidad Catolica Javeriana — Colombia
G. Wade	Radio and Visual Information Division — U.N.E.S.C.O.
Bernard Webster	Director of Educational Television, City of Plymouth Educational Television Service — United Kingdom
Stephen White	Communications expert Ford Foundation — United States of America
M. Wilson	Radio and Television expert — U.N.E.S.C.O.
James Wykes	Director of Educational Television Inner London Education Authority — United Kingdom

The denominations given to the various countries were chosen only with a view to facilitating the geographical localization of the organizations invited.

List of Organizations which sent descriptions of their activities

AFRICA

Radiodiffusion nationale tchadienne — Chad
Radiodiffusion-Télévision congolaise — Congo Brazza
Radiodiffusion-Télévision nationale congolaise — Congo Kinshasa
Radio Ethiopia — Ethiopia
Ghana Broadcasting Corporation — Ghana
Radiodiffusion-Télévision ivoirienne — Ivory Coast
Ministry of Education — Kenya
Radiodiffusion-Télévision nationale malgache — Malagasy Republic
Malawi Broadcasting Corporation — Malawi
Télévision scolaire du Niger — Niger
Ministère de l'éducation nationale — Niger
Nigerian Broadcasting Corporation — Nigeria
Radio Uganda — Uganda
Ministry of Education — Zambia

AMERICA

Ministerio de Educacao e Savde — Brazil
Fundaçao Joao Baptista do Amaral — Brazil
Société Radio Canada/Canadian Broadcasting Corporation — Canada
Television Universidad Catolica de Chile Canal 13 — Chile
Instituto Nacional de Radio y Television — Colombia
Radio Station W.V.U.V. — Samoa
National Association of Educational Broadcasters — United States

Federal Communications Commission — United States

ASIA

All India Radio — India
Instructional Television Trust — Israel

Nippon Hoso Kyokai — Japan
Center for Educational Television — Ateneo de Manila University — Philippines
Radio Okinawa Company Ltd. — Ryukyu Islands
Radio Vietnam — South Vietnam
Broadcasting Corporation of China — Taiwan
Ministry of Education — Thailand
Turkish Radio and Télévision — Turkey

EUROPE

Österreichischer Rundfunk — Austria
Belgische Radio en Televisie — Belgium
Radiodiffusion-Télévision belge — Belgium
Radio et Télévision bulgares — Bulgaria
Cyprus Broadcasting Corporation — Cyprus
Ceskoslovensky Rozhlas — Czechoslovakia
Danmarks Radio — Denmark
Deutscher Demokratischer Rundfunk — East Germany
Deutscher Fernsehfunk — East Germany
Oy Yleisradio A.B. — Finland
Magyar Radio es Televizio — Hungary
Rikisutvarpid — Iceland
Radio-Telefis Eireann — Ireland
Radiotelevisione Italiana — Italy
Malta Broadcasting Authority and Television Service — Malta
Teleac/Television Academy — Netherlands
Norsk Rikskingkasting — Norway
Polskie Radio i Telewizja — Poland
Radiotelevisao Portuguesa — Portugal
Direccion General de Radiodifusion y Television — Spain
Sveriges Radio — Sweden
British Broadcasting Corporation — United Kingdom
Centre for Educational Television Overseas — United Kingdom
Independent Television Authority and Independent Television Companies Association Ltd. — United Kingdom
State Committee for Broadcasting and Television — U.S.S.R.
A.R.D. — West Germany
Zweites Deutsches Fernsehen — West Germany
Jugoslovenska Radiotelevizija — Yugoslavia

OCEANIA

Australian Broadcasting Commission — Australia

Review of programmes presented

The work of Commission I was illustrated by montages or excerpts of programmes from the following organizations :

Television	A.R.D. (West Germany)
	R.T.B. (Belgium)
	Universidad catolica de Chile (Chile)
	Radiodiffusion Télévision Congolaise (Congo Brazza)
	O.R.T.F. — I.P.N. — C.A.V. Saint-Cloud — C.U.C.E.S. (France)
	Magyar Televizio (Hungary)
	I.T.T. (Israel)
	N.H.K. (Japan)
	Polskie Radio i Telewizja (Poland)
	B.B.C. — C.E.T.O. — I.T.A./I.T.C.A. (United Kingdom)
	Sveriges Radio (Sweden)
	S.S.R. (Switzerland)
Radio	A.B.C. (Australia)
	N.H.K. (Japan)
	Ministry of Education (Kenya)
	B.B.C. (United Kingdom)
	S.S.R. (Switzerland)
	Ceskoslovensky Rozhlas (Czechoslovakia)
	Radio Vietnam (South Vietnam)

The work of Commission III was illustrated by montages or excerpts of programmes from the following organizations :

Television	O.C.O.R.A. (France)
	C.E.T.O. (United Kingdom)

The work of Commission IV was illustrated by montages or excerpts of programmes from the following organizations.

Television	R.T.B. (Belgium) O.R.T.F. — C.R.E.D.I.F. — I.P.N. — C.A.V. Saint-Cloud — O.C.O.R.A. (France) Magyar Televizio (Hungary) N.H.K. (Japan) Télévision scolaire du Niger (Niger) University of Salisbury (Rhodesia) C.E.T.O. (United Kingdom)

Furthermore, two evenings were reserved for the screening of programmes which had won the « Japan Prize » and the « Prix Jeunesse ».

JAPAN PRIZE

Title	« Once upon a time — The Calendar of Nature »
Duration	39 mins. 40 secs.
Organization	Oy Yleisradio AB
Country	Finland
Title	« Striving for Independance — The Children's World »
Duration	30 mins.
Organization	N.H.K.
Country	Japan

PRIX JEUNESSE

Title	« Longing for companions »
Duration	30 mins. 34 secs.
Organization	N.H.K.
Country	Japan
Title	« Young people's concert — What is a melody? »
Duration	52 mins. 37 secs.
Organization	Columbia Broadcasting System
Country	United States of America
Title	« The land of the great story-teller »
Duration	26 mins. 30 secs.
Organization	Ceskoslovenska Televize
Country	Czechoslovakia
Title	« The pupil of Tomteboda »
Duration	25 mins. 15 secs.
Organization	Sveriges Radio
Country	Sweden

References

Programmes broadcast during the auditing and screening sessions :

TELEVISION	*Nursery schools, pre-academic education*	3 programmes
	Primary education	14 programmes
	Science, technology	6
	Social sciences	1
	Ethics	2
	National language	2
	Geography	1
	Mathematics	1
	Re-education	1
	Secondary education	38 programmes
	Science, technology	12
	Social sciences	2
	National language	5
	Geography	1
	Mathematics	5
	Foreign languages	6
	History	2
	Fine Arts	3
	Music	1
	Vocational education	1
	Higher education	10 programmes
	Science, technology	5
	Social sciences	2
	National language	1
	History	1
	Vocational education	1
	Literacy	5 programmes
	Adults	30 programmes
	Basic education	2
	Social sciences, psychology	8
	Science	1
	National language	2
	Mathematics	4

		Programmes presented
	Foreign languages	3
	History	1
	Vocational training	2
	Hygiene	2
	Economics	5
	Teachers	9 programmes
	Basic training	1
	Specialized pedagogic information	3
	Information about educational radio and television	5
RADIO	*Nursery schools, pre-academic education*	1 programme
	Primary education	36 programmes including 6 radiovisions
	Science, technology	3 including 1 radiovision
	Social sciences	4 including 2 radiovisions
	Ethics	2
	National language	5
	Geography	1 radiovision
	Mathematics	1
	Foreign languages	1
	History	5 including 2 radiovisions
	Fine Arts	1
	Music	12
	Hygiene	1
	Secondary education	29 programmes including 2 radiovisions
	Science, technology	6
	Social sciences	7 including 1 radiovision
	Philosophy	1
	National language	4
	Foreign languages	5 including 1 radiovision
	History	3
	Music	3

Higher education	2 programmes
National language	

Adults	13 programmes
Basic education	1
Social sciences, psychology	4
National language	2
Foreign languages	2
Music	3
Hygiene	1

Teachers	3 programmes
Basic training	

Radio programmes

AUSTRALIAN BROADCASTING COMMISSION — Australia

Title	« Adventures in music (Brass) »
Author	M. Lobb
Producer	M. Madgwick
Speed	7 1/2 inches/s
Duration	20 mins.
Language	English
Level	Primary education
Subject	Musical appreciation
Subject-matter	This series of 33 broadcasts aims to present a great variety of music to young children in order to develop their understanding and appreciation. Throughout the year short passages from major classical works are broadcast to illustrate different subjects. This broadcast on brass instruments is one of 5 on the instruments of the orchestra.

Title	« Flies, our enemy »
Author	D. Koop
Producer	B. Halesworth
Speed	7 1/2 inches/s
Duration	13 mins. 40 secs.
Language	English
Level	Primary Education
Subject	Social studies
Subject-matter	Flies are our Enemies. This is a health broadcast for children in the 5th and 6th grades of the primary school. Children are told the life-history of a fly, and why it is a carrier of germs. A dramatized section, intended

to amuse the children, also reiterates the information about the feeding habits of flies. Children are advised how they can fight their enemy, the fly. Question-time brings a Health Department answer to questions asked by village children, who send in their queries each week. This week, questions are about small-pox, the movement of germs and tuberculosis.

Title	« Social-studies — Personal and communal cleanliness »
Author	J. T. Carr
Producer	R. Hearder
Speed	7 1/2 inches/s
Duration	18 mins. 34 secs.
Language	English
Level	Primary education
Subject	Health
Educational purpose	To teach the necessity for habits of personal and communal cleanliness.
Subject-matter	This broadcast for the upper grades of the primary school is part of a series designed to improve the personal hygiene of the children. The narrator is a self-styled « Bacteria Boffin » who is supposed to know all about bacteria. In this broadcast, he tells how harmful bacteria « hitch hike » from one person to another, carrying disease. Children are encouraged to carry out the experiments with culture jelly described in the accompanying material.

Title	« Let's speak English »
Speed	7 1/2 inches/s
Duration	15 mins.
Language	English

Title	« French for schools »
Speed	7 1/2 inches/s
Duration	19 mins.
Language	English

BELGISCHE RADIO EN TELEVISIE — Belgium

Title	« At the Opera »
Speed	15 inches/s
Duration	25 mins. 45 secs.
Language	French

Title	« Let's listen »
Speed	15 inches/s
Duration	26 mins.
Language	French

RADIO ET TELEVISION BULGARES — Bulgaria

Title	« Hop-hop is drawing »
Author	K. Vodenitharova
Speed	15 inches/s
Duration	14 mins.
Language	Bulgarian
Level	Kindergarten
Subject-matter	Broadcast dealing with the aesthetic education of very young children and aiming to teach them the elementary rules of drawing.

Title	« Songs of my native country »
Speed	15 inches/s
Duration	17 mins. 45 secs.
Language	Bulgarian
Level	Secondary education
Educational purpose	To complete and develop the pupils' musical education.
Subject-matter	Broadcast devoted to Bulgarian folk music.

CANADIAN BROADCASTING CORPORATION/SOCIÉTÉ RADIO CANADA — Canada

Title	« How do you say hello? »
Author	Charles Winter
Producer	Dan McCarthy
Speed	7 1/2 inches/s
Duration	29 mins. 20 secs.
Language	English
Level	Secondary education
Subject	Social studies
Educational purpose	To show Canadian children something of life in Asia.
Subject-matter	Bakar is an eleven-year-old blind boy who attends a school for normal children in the capital city of Malaysia. He and his school-mates describe their activities in and out of school.

Title	« The best ideas you'll hear to-night »
Authors	R. Theobald, M. McLuhan, E. Fowkes, W. Whitehead
Producer	Janet Somerville
Speed	7 1/2 inches/s

Duration	59 mins. 10 secs.
Language	English
Level	Broadcast intended for adults.
Subject	Public affairs
Subject-matter	Robert Theobald interviews Marshall McLuhan on technology and the future of Man. Edith Fowkes presents songs for the Space Age. Bill Whitehead gives consumer reports for 1984.

Title	University course « normative grammar of written French »
Author	Professor Bernard Dupriez
Producer	Jean Lacroix
Speed	7 1/2 inches/s
Duration	23 mins.
Language	French
Level	Broadcast intended for adults.
Subject	French
Educational purpose	Degree for secondary school teachers.
Subject-matter	Rules governing the agreement of qualifying adjectives with examples and explanations.

RADIO DIFFUSION NATIONALE TCHADIENNE — Republic of Chad

Title	« Teacher's hour »
Author	Radio-Tchad
Producer	Radio-Tchad
Speed	7 1/2 inches/s
Duration	20 mins.
Language	French
Level	Primary education
Subject	Teacher's magazine
Educational purpose	To give advice on teaching methods, elements which may serve as a basis for refresher courses for teachers, model lessons, analyses of texts and school rules, information about new trends and methods in teaching.

RADIODIFFUSION-TÉLÉVISION CONGOLAISE — Congo Brazza

Title	« School for teachers »
Author	Centre de recherches pédagogiques
Producer	J. B. Moanda
Speed	7 1/2 inches/s
Duration	19 mins.
Language	French
Level	Programme intended for adults.

CESKOSLOVENSKY ROZHLAS — Czechoslovakia

Title	« At home »
Speed	15 inches/s
Duration	15 mins.
Language	Czech

Title	« The Mayrising in Prague »
Speed	15 inches/s
Duration	11 mins.
Language	Czech

Title	« The ways lead to Adam »
Speed	15 inches/s
Duration	16 mins. 30 secs.
Language	Czech

Title	« High and low »
Speed	15 inches/s
Duration	11 mins. 10 secs.
Language	Czech

DANMARKS RADIO — Denmark

Title	« Mathematics for class 7 »
Author	Bent Christiansen
Producer	Jorgen Juulsgaard
Speed	15 inches/s
Duration	17 mins. 55 secs.
Language	English
Level	Primary education
Subject	Mathematics
Educational purpose	To help teachers to adopt the new methods of approaching mathematics. Contents of these methods and their practical application in the classroom.

INSTITUT PÉDAGOGIQUE NATIONAL — France

Title	« Komm, lieber Mai... »
Author	I.P.N.
Producer	O.R.T.F.

Speed	7 1/2 inches/s
Duration	20 mins.
Language	German
Level	Secondary education — 1st form
Subject-matter	Acquisition of vocabulary : der Bach das Maiglöckchen das Veilchen blühen pflücken sich hinsetzen and of grammar : formation of diminutives with the suffix — chen.

Title	« The tradesman »
Authors	M. Briau, Prévot
Producer	M. Agostini
Speed	7 1/2 inches/s
Duration	20 mins.
Language	French
Level	Secondary education
Subject	Vocational information
Educational purpose	To give pupils who will shortly be starting work, information of both vocational and economic interest. This broadcast is the first of a series aiming to make known the problems of distribution. The tradesman (a butcher) puts forward his point of view; the next broadcast presents a department store.

Title	« What do you think about it? In the margin of *la Chanson de Roland* »
Author	Mlle Gagey
Producer	M. Dauguet
Speed	7 1/2 inches/s
Duration	20 mins. 40 secs.
Language	French
Level	Secondary education
Subject	French
Educational purpose	This series of broadcasts is presented in the form of a debate between pupils, encouraged by two psychologists from the school of parents and educators. The aim of these broadcasts is, without directly controlling the pupils and without trying to correct them formally, to arouse their spontaneous reactions to the themes suggested by the text, which is in this broadcast, « The death of Oliver », an excerpt from the « Chanson of Roland ».

O.R.T.F. — France

Title	« Walks with artists »; Lesson 11 : Degas
Author	Pierre Roudy
Producer	French by Radio Service

Speed	7 1/2 inches/s
Duration	11 mins. 20 secs.
Language	French
Level	Broadcast intended for adults : French civilization
Subject	Foreign language
Educational purpose	Intended for listeners who have acquired an adequate command of the language. Introduction to some of the great French artists of the 19th century.
Subject-matter	Lesson 11 : Dialogue between Mallarmé and Degas. Degas is interested in photography. He talks about one of his latest paintings, a dancer. Mallarmé informs him that the Ministry has just bought one of his works. This makes Degas furious.

Title	« Walking in Paris »
Author	Pierre Roudy
Producer	French by Radio Service
Speed	7 1/2 inches/s
Duration	12 mins. 40 secs.
Language	French
Subject	Foreign language
Educational purpose	Intended for listeners who have acquired an adequate command of the language. Glimpses of historic moments in 19th century France. Introduction to the written language.
Subject-matter	Valérie is taken by her godfather to the rue Poulletier on the île Saint-Louis, where the poet Charles Baudelaire lived. A stray dog passing by serves as a pretext for the presentation of one of the poet's works.

STICHTING NEDERLANSCHE RADIO UNIE — Netherlands

Title	« Music is everywhere »
Author	H. Broekhuizen
Producer	H. Broekhuizen
Speed	15 inches/s
Duration	26 mins. 10 secs.
Language	English
Level	Primary education
Subject-matter	This lesson is one of a series of 13 broadcasts entitled : « Music is everywhere ». The lessons have been conceived with the aim of developing the pupils' taste for music. Thus, in close collaboration with the children, we attempt to discover the timeless beauty of music in general, and also the beauty which exists in relation to nature or which is to be found in the street, in church and in the home, or through the works of the great composers.

MAGYAR RADIO ES TELEVIZIO — Hungary

Title	« Beethoven, the 9th Symphony — 4th movement »
Author	Helga Szabo
Producer	Szilvia Arato
Speed	15 inches/s
Duration	15 mins.
Level	Secondary education; broadcast intended for adults
Subject	Music and singing
Educational purpose	To facilitate the use of a new school text-book, which deals, in particular, with listening to music.
Subject-matter	The pupils look, in popular and « composed » music, for examples in which the musical phrase consists of a question and an answer, in order to prepare the theme of the fourth movement by following these different forms in the symphony.

Title	« Who is the coward? »
Author	Mrs. F. Pataki
Producer	M. Gusztav Ballay
Speed	15 inches/s
Duration	20 mins.
Language	Hungarian
Level	Secondary education
Educational purpose	The creation of an atmosphere gives rise, in the classroom, to discussions about moral problems.
Subject-matter	The characters of the playlet gamble for money. One of them tries to stop the others cheating and tries to win back the money which has been lost.

Title	« Teaching and practice of the musical interval CE »
Author	Aniko Hamvas
Producer	Szilvia Arato
Speed	15 inches/s
Duration	15 mins.
Language	Hungarian
Level	Broadcast intended for teachers.
Subject	Music and singing
Educational purpose	To help non-specialized primary school teachers to teach singing in school, by drawing their attention to new broadcasts and books.
Subject-matter	The teaching, practice and representation of the musical interval CE, through melodies already learnt in children's songs.

KOL ISRAEL/ISRAEL BROADCASTING AUTORITY — Israel

Title	« For girls » (and for boys as well)
Author	Esther Kal
Producer	Nili Yanai

Speed	15 inches/s
Duration	18 mins. 10 secs.
Language	Hebrew
Level	Primary education
Educational purpose	To encourage children to read books
Subject-matter	Here, a book is introduced which is not a work of fiction but which contains household instructions for young girls (and perhaps for boys too) who might help with housework. The book is not at all didactic and is very pleasant to read partly because of the good advice given.

Title	« Toscanini, the conductor »
Author	Ruth Rafaeli
Producer	Yael Odesser
Speed	15 inches/s
Duration	20 mins.
Language	Hebrew
Level	Primary education
Subject	Music
Educational purpose	To familiarize children with the sounds of classical music.
Subject-matter	How music was played and sung in the humble house of Arturo Toscanini's father and how that, and an understanding teacher, guided him towards his career as one of the world's greatest musicians.

Title	« English by air
Speed	7 1/2 inches/s
Duration	38 mins. 20 secs.
Languages	Hebrew — English

Title	« The great game »
Speed	15 inches/s
Duration	27 mins.
Language	Hebrew

RADIOTELEVISIONE ITALIANA — Italy

Title	« Beware ! Danger ! » explosive devices
Author	Gladys Engely
Producer	Anna-Maria Romagnoli
Speed	15 inches/s
Duration	30 mins.
Language	Italian
Level	Primary education
Subject	Civics
Educational purpose	Prevention of accidents.
Subject-matter	The story takes place in a little village which has suffered a great deal during the war. The main street divides the new houses from the old ones

which have become uninhabitable owing to the damage caused by the war. But one day, heavy rains flood the street and turn it into a river of mud. When the storm is over some children on their way to school notice a sort of cauldron without handles sticking out of the mud. At first they are frightened, since they have often been told never to touch unknown objects, but then, fascinated by this mysterious device — an anti-tank mine — they start throwing stones at it. A terrible explosion kills one of them; the others are scarred for life.

Title	« Scenes from the life of Saint Francis in search of glory »
Author	Mario Pucci
Producer	Ruggero Winter
Speed	15 inches/s
Duration	30 mins.
Language	Italian
Level	Primary education
Subject	Religion and drawing
Educational purpose	Religious education and encouragement to draw.
Subject-matter	The broadcast is preceded by the brief daily series « Our friends the Saints » dealing with Santa Bibiana as well as with a newsreel. The tale « Scenes from the life of Saint Francis » shows some episodes of the youth of the « poverello » of Assisi. After his captivity in Perugia, and a serious illness, Francis wishes to find fame and, as a knight, sets off with an expedition against the Normans. But the troop has to stop at Spoleto. By night, Francis who is ill, dreams of a wonderful castle and hears a voice that tells him what he has to do. Francis awakes and, although he cannot understand the meaning of these words, obeys.

Title	On the air « The provinces of Italy » : Veneto
Authors	Giuseppe Aldo Rossi, Anna-Maria Romagnoli, Mario Vani
Producer	Ugo Amodeo
Speed	15 inches/s
Duration	30 mins.
Language	Italian
Level	Secondary education
Subjects	History — geography — literature — acting
Educational purpose	To arouse interest in history, geography, theatre and acting.
Subject-matter	The new series « The provinces of Italy » started with Veneto. Venice is described with items of folklore, and poetry, as well as by episodes from its history. Then, we move on to the other towns of Veneto, and the places where the last Italian war of independence was fought. In the broadcast « Thespis' little chariot » are shown the most popular masques of the Venetian theatre. The programme ends with the recollection of the transfer of relics of Saint Mark to Venice, and with other historical episodes, such as the struggles between the Genoese and the Venetians, the siege laid to Venice in 1849, an episode of the epic of Garibaldi centred on Ippolito Nievo, the « Garibaldian administrator ».

Title	« The little newspaper for all »
Author	Gian Francesco Luzi
Producer	Ruggero Winter
Speed	15 inches/s
Duration	30 mins.
Language	Italian
Level	Primary education
Subject	Italian language exercise
Subject-matter	For « The little newspaper for all », the headmaster and children present several pieces of writing sent by pupils for the series « when the heart wins ». Then, the pieces sent for the broadcasts « the thing I like best » and then, « I shall be sorry » are read. As usual, the most spontaneous and sincere writing is chosen. In the programme « little mail-bag » a letter is read which comes from several pupils who have founded a league to combat blasphemy in their region. Next, come the compositions sent for the programme « brief account of a friendship ». These recall moving episodes experienced by these same children. The broadcast ends with the distribution of prizes to the most deserving pupils, who win a bicycle, and a portable radio for their teachers. At the end of the broadcast, a competition is organized on the subject « Ancestors ».

NIPPON HOSO KYOKAI — Japan

Title	« How has she learned to talk? »
Producer	Takashiro Akiyama
Speed	7 1/2 inches/s
Duration	15 mins.
Language	Japanese
Level	Secondary education
Educational purpose	This broadcast is designed to help the audience to understand the development of language and thereby the moulding of « The Ego ».
Subject-matter	The N.H.K. has recorded the speech of a little girl called Izumi regularly twice a month since she was born. This broadcast consists of a systematic selection of her expressions ranging from her first cries and whimpers and the stammering of her first words such as « Mummy » and « Daddy » to the more advanced speech she is now acquiring at the age of 4 1/2, in order to throw light on the relationship between the development of language and the moulding of human personality. Professor Toshihiko Tokizane of Tokyo University speaks on the subject of the development of human language in relation to the development of the brain.

Title	« Japanese children's songs »
Producer	Shoji Kawashima
Speed	7 1/2 inches/s
Duration	15 mins.

Language	Japanese
Level	Primary education
Subject	Music
Educational purpose	Introduction to music for the 3rd and 4th forms.
Subject-matter	The broadcast is intended to enable children to realize that traditional music is also a product of life in Japan. The process, by which the language of children has been set to music is demonstrated.

MALAWI CORRESPONDENCE COLLEGE — Malawi

Title	« Mid-week magazine »
Author	M. G. Ince
Producer	J. Moore
Speed	7 1/2 inches/s
Duration	30 mins.
Language	English
Level	Broadcast intended for adults and secondary school pupils especially for isolated students who have no access to libraries or night schools.
Subject-matter	An article on the United Nations, a comic poem discussed, questions on science answered, and the first programme in a series « Ways of making music », in which the instruments of the Western orchestra are introduced beginning with the percussion instruments.

RADIODIFFUSION NATIONALE — Mauritania

Title	« Teacher's hour »
Speed	7 1/2 inches/s
Duration	29 mins. 15 secs.
Language	French

NORSK RIKSKRINGKASTING — Norway

Title	« Nuclear energy »
Author	Dr. Helmut Ormestad
Producer	Tor Strand
Speed	15 inches/s
Duration	35 mins. 10 secs.
Language	English
Level	Secondary education
Subject	Physics
Subject-matter	In this broadcast, completed by a series of simple illustrations, Dr. Ormestad explained how it all works, beginning with the simple structure of a hydrogen atom and proceeding via the principles of nuclear fission to the working of an atomic pile.

POLSKIE RADIO I TELEWIZJA — Poland

Title	« Echoes »
Speed	15 inches/s
Duration	17 mins. 30 secs.
Language	French

Title	« A modern version of Cinderella »
Speed	15 inches/s
Duration	18 mins. 10 secs.
Language	Polish

Title	« Musical education for children »
Speed	15 inches/s
Duration	33 mins. 40 secs.
Language	Polish

RADIO VIETNAM — South Vietnam

Title	« Nuong, King Hung's daughter »
Author	Service des Emissions Scolaires
Producer	Radio Vietnam
Speed	7 1/2 inches/s
Duration	15 mins.
Language	Vietnamese
Subject	Stories and legends
Educational purpose	To teach children to love their national history and to smooth out difficulties of pronunciation.
Subject-matter	Princess Nuong, King Hung's daughter was old enough to be married. Her father the king, required only one thing, of her suitors; the first to arrive with presents should marry his daughter. The genie of the mountains arrived first but was engaged in a gigantic battle with the genie of the waters who arrived second. The latter was vanquished. This legend symbolizes the conquest of the land by our ancestors.

Title	« Short and long flute »
Author	Service des émissions scolaires
Producer	Radio Vietnam
Speed	7 1/2 inches/s
Duration	15 mins.
Language	Vietnamese
Subject	Music

Educational purpose	First steps in the practice of the national music and traditional instruments.
Subject-matter	The short flute of three notes and the long flute of five notes made of bamboo are instruments used in traditional music. They are easily played and produce a fascinating harmony which expresses very well the simple soul of our peasants who are fond of art and literature in the midst of nature.

SVERIGES RADIO — Sweden

Title	« The miracle »
Authors	Hans Hof — Manne Stenbeck — Brita Wallner
Producer	Brita Wallner
Speed	15 inches/s
Duration	15 mins.
Language	English
Level	Secondary education
Subject	Religion
Educational purpose	An objective and analytical approach to the Bible and the part it plays in people's lives to-day.
Subject-matter	After a quotation from the Bible, we hear the views of some teenagers, a clergyman, a professor of philosophy, and a doctor on the subject of the Miracle, based on a newspaper article about a dramatic incident with a miraculously happy ending.

Title	« Education in developing countries »
Authors	Lars Eriksson — Göran Segerström
Producer	Göran Segerström
Speed	15 inches/s
Duration	15 mins.
Language	English
Level	Secondary education
Subject	Sociology
Educational purpose	To give information, in a combined radio and television series, about the emerging countries to-day, example : Tanzania teaching geography as well as history, sociology and Swedish.
Subject-matter	After a visit to a maths-lesson in class 1, in Tabora, Mr. Eriksson of U.N.O. is interviewed about the part that education plays in the economy of the emerging countries. Miss Johansson, headmistress of a girls' school in Tabora talks about conditions in her school and the problems that face her boarders, the lucky few, when they go back to their villages during their holidays. Finally, we touch on the problems of adult education and visit a Community Centre in Tabora.

Title	« Sexual education »
Authors	Lis Asklund — Torsten Wickbom
Producer	Göran Segerström

Speed	15 inches/s
Duration	21 mins. 35 secs.
Language	English
Subject-matter	In this series, the subject is birth-control. A doctor is interviewed about the various kinds of contraceptive methods now available, and family planning is discussed from various angles.

SOCIÉTÉ SUISSE DE RADIODIFFUSION ET TÉLÉVISION — Switzerland

Title	« Haendel's firework music »
Author	Jacques Burdet
Producer	Swiss Radio (French-speaking)
Speed	15 inches/s
Duration	22 mins. 45 secs.
Language	French
Level	Primary and secondary education
Subject-matter	To commemorate the peace treaty signed in October 1748 at Aix-la-Chapelle, which ended the war of the Austrian Succession, King George II of England decided to give the people of London a magnificient firework display. He asked his favourite composer Haendel to write some music to be performed in the open air to add to the splendour of the proceedings. In the spring of 1749, the last rehearsal takes place in Vauxhall Park under the direction of Haendel who gives a commentary on his composition for his musicians, a hundred strong, and for the public present at the rehearsal. The work consists of six movements; the overture (two themes), the bourrée, « Peace » « Rejoicing » and the Finale consisting of two minuets.

Title	« Voyage through the human body »
Author	Ed. Della Santa
Producer	Swiss Radio (French-speaking)
Speed	7 1/2 inches/s
Duration	26 mins.
Language	French
Level	Primary education
Subject-matter	This « Voyage through the human body » is made to familiarize the children with human anatomy and physiology. Introduced by the narrator we meet a likeable character, Mr. Microbus, a teacher who undertakes a detailed trip around the human body with his pupils named Microsons, in order to reveal to them the complexity of the « human machine ». At the end of the visit, the enthusiastic pupils are ready for another exploration. This broadcast has been one of the most popular among young listeners French to Swiss-Radio.

RADIODIFFUSION DU TOGO — Togo

Title	« National Anthem of Togo »
Producer	M. Lescot
Speed	7 1/2 inches/s
Duration	12 mins. 15 secs.
Language	French
Level	Broadcast intended for adults : basic education.
Educational purpose	To teach the people of Togo how to understand and sing their national anthem.
Subject-matter	National Anthem of Togo. Words and music by Alex and Robert Dosseh. Alex Dosset, former pupil of the Paris Conservatoire, music master in the secondary school of Tokoin in Lomé (Togo) is the composer of the music. The words were written by his elder brother, Monsignor Robert Dosseh, the first black Archbishop of Togo.

TURKISK RADIO AND TELEVISION — Turkey

Title	« Turkish Theatre »
Author	Elcin Koray
Producer	Elcin Koray
Speed	7 1/2 inches/s
Duration	21 mins.
Language	Turkish
Level	Higher education
Subject	Art and literature
Educational purpose	General education for adults.
Subject-matter	The origin and development of Turkish theatre with illustrations of various kinds.

MINISTRY OF EDUCATION — Uganda

Title	1. « Sesota, the king of the snakes » 2. « The story of Kintu »
Producer	J. R. Tindyebwa
Speed	7 1/2 inches/s
Duration	14 mins. 26 secs.
Language	English
Educational purpose	Teaching English as a second language.
Subject-matter	The broadcast is intended to teach English as a second language to African children, using their culture. In this instance, a traditional story well-known to the children is used. This quickly catches their interest, and although they may not necessarily understand each word, they follow the story, and without much effort accustom themselves to the rhythm of English, which is so essential in the formative years. Grammatical analysis follows at a later stage.

BRITISH BROADCASTING CORPORATION — United Kingdom

Title	« Living Language »
Author	Ted Hughes
Producer	Moira F. Doolan
Speed	15 inches/s
Duration	19 mins.
Language	English
Level	Primary education
Subject	Play in verse
Educational purpose	A listening experience that stimulates imagination and thought.
Subject-matter	The old fairy-tale retold by a poet. The girl Floreat is threatened by a strange illness and by a voice in the night. Her father drives off the dragon attacker and his son brings a dancing bear to make her laugh. The bear runs off with her to the forest. Father and son hunt down the beast, but Floreat's amazing avowal of love breaks the spell and turns the bear into a handsome young man.

Title	« Birth of a child »
Author	Michael Smee
Producer	Elizabeth Kilham-Roberts
Speed	15 inches/s
Duration	19 mins. 25 secs.
Language	English
Level	Secondary education
Subject	Preparation for adult life
Subject-matter	The greater part of the broadcast was recorded in a large maternity hospital in London. But the events in the hospital are interrupted, from time to time, by a studio sequence where the narrator puts questions to the obstetrician and asks him to comment on what is going on in the hospital. The events in the hospital start with the expectant mother recalling the beginning of her labour, then they go through the three stages of a normal birth until the programme ends with the baby's loud cries as he is held in his mother's arms.

Title	« After school English »
Author	Emmeline Garnett
Producer	Peggy Bacon
Speed	7 1/2 inches/s
Duration	14 mins. 55 secs.
Language	English
Level	Broadcast intended for adults
Subject	English language and literature
Educational purpose	To help adults to study at home in order to take an examination.
Subject-matter	Last of 4 programmes introducing the series. 1. Explanation of links between series and correspondence course. 2. Introduction to the language of metaphor.

3. Examples of metaphors in literature, songs, games and set books.
4. The broadcast continues with a commentary on a speech from « Henry IV » Part II and a discussion of Shakespeare's use of metaphor.

Title	« First year Russian »
Authors	L. M. O'Toole — P. T. Culhane — P. S. Mirsky
Producers	R. Hooper — Denis Simmons
Speed	7 1/2 inches/s
Duration	7 mins. 30 secs.
Languages	English and Russian
Level	Broadcast intended for adults
Subject	Foreign languages
Subject-matter	A course of 20 lessons prepared by the Language Centre of the University of Essex in cooperation with the B.B.C. Everyday, there are conversations between a few well'defined characters. Broadcasts, conducted by a tutor who adds essential explanations, include repetition drills, stressing correct pronunciation and intonation. Broadcasts intended mainly as preparation and follow up to evening classes for which a comprehensive teaching kit has been devised by the University of Essex.

Title	« The colour problem in Great Britain »
Author	Michael Smee
Producer	Richard Hooper
Speed	7 1/2 inches/s
Duration	6 mins. 51 secs.
Language	English
Level	Broadcast intended for adults
Subject	Sociology
Educational purpose	To examine the colour problem in Britain and the roots of racial prejudice.
Subject-matter	The present attitudes of workers to immigrants. A journalist talks about racial prejudice and asks a sociologist to comment on the views expressed. Finally a psychologist and a historian add their comments.

Title	« Introduction to Chinese »
Author	David Pollard
Producer	Elsie Ferguson
Speed	7 1/2 inches/s
Duration	23 mins. 40 secs.
Language	English
Level	Broadcast intended for adults
Subject	Foreign languages
Educational purpose	Teaching Chinese to beginners.

Each lesson is built around a simple conversation. It is composed as follows :

1. Revision of questions and answers from previous week.
2. Pronunciation of new vocabulary (with repetitions).

3. Reading of conversation by actors.
4. Repeat of conversation with audience participation.
5. Explanation of new grammatical points, followed by drills.
6. Repeat of conversation at faster speed.
7. Questions and answers on the conversation.

Title	« Music dictionary »
Author	Roger North
Producer	Peter Dodd
Speed	15 inches/s
Duration	24 mins. 41 secs.
Language	English
Level	Broadcast intended for adults
Educational purpose	To explain common musical terms for the non-specialist.
Subject-matter	An example of syncopation in Bartok, syncopated hand-clapping against music by Tchaikovsky, what jazz would sound like if it wasn't syncopated : the two main ways in which syncopation is achieved (examples from works by Beethoven and Copland).

HESSISCHER RUNDFUNK — West Germany

Title	« Till Eulenspiegel's merry pranks »
Author	Dr. Siegfried Borris
Producer	Dr. Ubrich Trappe
Speed	7 1/2 inches/s
Duration	28 mins. 40 secs.
Language	German
Level	Broadcast intended for adults : basic education
Subject	Music
Educational purpose	Introduction to the world of music, presented with many examples.
Subject-matter	In his symphonic poem, Strauss illustrates by many means, Till Eulenspiegel's pranks. The form of the rondo used here is thus explained.

WESTDEUTSCHER RUNDFUNK — West Germany

Title	« Mrs. Rider and her M.P. »
Author	Raymond Escoffey
Producer	Dr. Hans-Jürgen Daus
Speed	7 1/2 inches/s
Duration	14 mins. 10 secs.
Language	English
Level	Secondary education
Subject	English
Educational purpose	Within the language-teaching programme, this series aims at teaching correct English with the emphasis on pronunciation.

Subject-matter	Mr. and Mrs. Rider live near London Airport. The noise of jet planes landing and taking off is a constant nuisance. Mrs. Rider is determined to do something about this and so she goes to see the Chief Airport Officer, but her visit has proved fruitless. Mrs. Rider does not give up. She collects 2000 signatures and calls on the local M.P. None of these people will vote for him at the next election. He therefore decides to bring the matter up in Parliament. Mr. and Mrs. Rider are listening to the radio. But just as the announcer is reading the report, a jet aircraft flies low over the house and they are unable to hear what their M.P. says. Next morning they wake up rather late. No aircraft noise had disturbed them the whole night. Had Mrs. Rider's representation really had effect? But soon, they know the real reason for their quiet night — dense fog!!

Title	« Let's sing »
Author	H. Langhans
Producer	Karl Weber
Speed	7 1/2 inches/s
Duration	23 mins. 30 secs.
Language	German
Level	Primary education
Educational purpose	These broadcasts recorded with children without previous preparation are particularly intended for schools which have no music-teacher. The artistic quality of the performances is of secondary importance compared to the spontaneity and liveliness of the broadcast.
Subject-matter	In this broadcast, the children learn two compositions from « Music for children » by Carl Orff, one being a canon and the other a dance. The music teacher is assisted by a group of instrumentalists with percussion instruments and flutes as well as a small choir to lead the singing.

JUGOSLOVENSKA RADIOTELEVIZIJA — Yugoslavia

Title	« The goldsmiths of the towns on the Adriatic coast from the 12th to the 17th century »
Author	Sujeska Knezevic
Producer	Ladislav Vindakijevic
Speed	15 inches/s
Duration	19 mins. 40 secs.
Language	Serbocroation

Title	« How did composers in former times represent tones? »
Author	Dimatrije Stefanovic
Producer	Branko Kaludjerovic
Speed	15 inches/s
Duration	10 mins. 15 secs.
Language	Serbocroation

Title	« The longest way »
Speed	15 inches/s
Duration	30 mins.
Language	Slovene

Title	« Everyday conversations »
Author	Radmilo Zurovac
Producer	Vlado Pegar
Speed	15 inches/s
Duration	10 mins. 45 secs.
Language	Serbocroation

Title	« What we children expect from the United Nations »
Author	Galina Jankovic
Producer	Ljubica Mateva
Speed	15 inches/s
Duration	13 mins. 45 secs.
Language	Macedonian

MINISTRY OF EDUCATION — Zambia

Title	« Working for wealth »
Author	Allan Kingsbury
Producer	Jenny Welch
Speed	7 1/2 inches/s
Duration	12 mins. 30 secs.
Language	English
Level	Secondary education
Educational purpose	To explain simple economics in a given local situation.
Subject-matter	This series is a continuation of « Man and Money » which deals with the economy of Zambia.

Radiovision programmes

BELGISCHE RADIO EN TELEVISIE — Belgium

Title	« The foundation of the town »
Speed	15 inches/s
Duration	32 mins. 30 secs.
Language	French

INSTITUT PÉDAGOGIQUE NATIONAL — France

Title	« The age of Louis XIV »
Author	M^{lle} Clerc
Producer	M. Agostini
Speed	7 1/2 inches/s
Duration	30 mins.
Language	French
Level	Primary education
Educational purpose	To evoke some aspects of civilization during the reign of Louis XIV, by means of works of art (painting architecture, tapestries...) and the accounts of authors, memoirialists and politicians of the day. To bring out the main characteristics of this period and to attempt to give a general outline.

Title	« In the bowels of the earth »
Author	M. Belis
Producer	M. Agostini
Speed	7 1/2 inches/s

Duration	30 mins.
Language	French
Level	Secondary education
Subject	Geography
Subject-matter	Is pot-holing a sport or a science? How were pits and caves hollowed out? How can one get to them, stay in them and live in them? Is there any vegetable and animal life down there? How does one feel underground? What adventures have you had underground? These are some of the questions put to Jacques Jolfre and Norbert Casteret.

NORSK RIKSKRINGKASTING — Norway

Title	« The life of the hermit-crab »
Authors	Per Halslund — Kjell Frantzen
Producer	Dag Sommerseth
Speed	15 inches/s
Duration	17 mins. 45 secs.
Language	English
Level	Primary and secondary education
Subject	Zoology
Educational purpose	Supplementary information — zoology
Subject-matter	A film-strip in colour tells us about the life of the hermit-crab. This little mollusc lives as a parasite on other sea-creatures.

Title	« Safety at sea »
Author	Helge Brodahl
Producer	Swein Wiel Jorgensen
Speed	15 inches/s
Duration	20 mins. 40 secs.
Language	English
Level	Secondary education
Subject	General education
Educational purpose	General information service.
Subject-matter	This programme which uses a film-strip in colour teaches us to respect « the rule of the road » at sea in order to avoid accidents.

SVERIGES RADIO — Sweden

Title	« On the run in London »
Author	Dennis Gotobed
Producer	Dennis Gotobed
Speed	15 inches/s

Duration	15 mins.
Language	English
Level	Secondary education
Subject	English
Educational purpose	To give some of the atmosphere of London by using it as a background to a dramatic story in sound and pictures.
Subject-matter	Two London teenagers see a man stealing a handbag in Trafalgar Square and take up the chase through London. Note : This story is presented in two radiovision programmes and one series of 20 coloured slides of which only the first 10 are used with this first programme.

BRITISH BROADCASTING CORPORATION — United Kingdom

Title	« The history of the world »
Author	Duncan Taylor
Producer	David Lyttle
Speed	15 inches/s
Duration	18 mins. 30 secs.
Language	English
Level	Primary education
Educational purpose	To interest children in great people and events of the past by appealing to their imagination.
Subject-matter	A reporter from the present visits Pompeii on August 23rd and 24th, 79 A.D. A modern artist's coloured illustrations show the people he talks to, and their homes. After the volcanic eruption, the reporter returns to the 20th century and shows coloured photographs of the scenes and objects on which his imaginary journey was based.

Television programmes

AUSTRALIAN BROADCASTING COMMISSION — Australia

Title	« Story of a tragedy »
Producer	Geoffrey Barnes
Film	16 Comopt
Duration	22 mins. 31 secs.
Language	English
Level	Kindergarten and Primary Education
Educational purpose	To give an impression of early explorations in Australia.
Subject-matter	The programme tells the story of the ill-fated Burke and Wills expedition across the Australian continent in the 1860's. Scenes are re-created by the use of dioramas and miniature figures. The programme recalls the harsh conditions in which the early Australian explorers tried to make their way across unknown territory in the interior of Australia.

Title	« I wonder — Birds »
Producer	Judith Simpson
Film	16 Sepmag
Duration	18 mins. 22 secs.
Language	English
Level	Primary Education
Subject	Elementary science
Subject-matter	The programme explains in simple language how birds are kept aloft by the movement and shape of their wings. It tells how man's dream of flying originated in the observation of birds in flight. Examples of the earliest flying contraptions are shown. The programme is richly illustrated.

Title	« Meet the author — Colin Thiele »
Producer	John Gleeson
Film	16 Comopt
Duration	22 mins. 41 secs.
Language	English
Level	Primary education
Subject	English language
Subject-matter	An author describes his personal approach to literary expression. He analyses passages from his works and compares them with the impression created by film slides on the same subject. The writer gives his theory as to which techniques to use in order to paint a verbal picture.

Title	« Probability »
Producer	Donald Batchelor
Film	16 Commag
Duration	20 mins. 55 secs.
Language	English
Level	Secondary education
Subject	Mathematics
Educational purpose	To familiarize pupils with new concepts in mathematics.
Subject-matter	The programme develops the concepts that underly the theories of probability from situations that occur in games of chance. It explains the basic formulae that govern calculations of probability.

Title	« Mr. Prime Minister »
Producer	Tom Hatdon
Film	16 Commag
Duration	29 mins. 20 secs.
Language	English
Level	Programme intended for adults
Subject	Politics
Educational purpose	To define the role of the Prime Minister in the Australian Government.
Subject-matter	The programme portrays the career and political personality of Sir Robert Menzies. It analyses his influence and dominance over the political scene in Australia. Contemporaries of Sir Robert give their opinion of his achievement.

RADIODIFFUSION-TÉLÉVISION BELGE — Belgium

Title	« The fish market »
Author	Gaston de Bleser
Producer	Jean Govaers
Film	16 Sepmag
Duration	20 mins.
Language	French

Level	Primary education
Subject	This programme is not related to any one subject. It is intended for a polyvalent exploitation
Educational purpose	Various developments based on a study of environment and a commercial process.
Subject-matter	Description of the harbour of Zeebrugge on the Belgian coast. Fishing in the open sea. Arrival of the fishing-boats. Unloading, selection, sale and distribution of the fish.

Title	« Toys and movement »
Authors	Emile Hoffmann — Paul Krelistein
Producer	Paulo Van Den Hove
Videotape	625 lines
Duration	25 mins.
Language	French
Level	Secondary education
Subject	Physics
Educational purpose	To give a simple example of a heat engine according to the second law of thermodynamics.
Subject-matter	Description of the movement given to a drinking duck, a toy giving a simplified idea of a heat engine. Various examples of heat engines : internal combustion engine, gas engine, radiometer... all according to Carnot's principle of thermodynamics. Modifications of the movement : rest, acceleration and so on...

Title	« Look, listen and speak »
Author	Raymond Claes
Producer	Paulo Van Den Hove
Videotape	625 lines
Duration	23 mins. 50 secs.
Language	English
Level	Secondary education
Subject	English
Educational purpose	An experimental programme aiming at adapting for school television the dialogue method used in teaching languages.
Subject-matter	A cartoon is shown, accompanied by a dialogue specially conceived in relation to the linguistic level of the pupils for whom the programme is intended. Recapitulation of structures from the dialogue : structures transferred to other sentences. Second showing of the cartoon.

Title	« Strangers in the house » (a gifted child)
Author	Jean-Pierre Gevens
Producer	Charles Godefroid
Film	16 Sepmag
Duration	31 mins. 40 secs.
Language	French

Level	Programme intended for adults : social advancement
Educational purpose	School for parents : for an improvement of the relationship between parents and children and of educational methods by a better knowledge of the child.
Subject-matter	For many parents, a gifted child is, above all, an intelligent one. What is the intelligence of a child? Which forms does it take throughout the various stages of its development? Can it be measured and what value may be assigned to such measurement? How can normal intellectual evolution be assisted? What place should it be given in the general development of a child's personality?

Title	« Water, only water »
Video-tape	625 lines
Duration	31 mins.
Language	French

BELGISCHE RADIO EN TELEVISIE — Belgium

Title	« Wood-engraving »
Film	16 Sepmag
Duration	28 mins. 29 secs.
Language	French

SOCIÉTÉ RADIO CANADA/CANADIAN BROADCASTING CORPORATION — Canada

Title	« Discovery in the forest »
Author	Gabriel Alain
Producer	Lucille Baril
Film	16 Sepmag
Duration	30 mins.
Language	French
Level	Primary education
Subject	Natural history
Educational purpose	To give a scientific message and create in the child an interest which will induce him to make observations and experiments.
Subject-matter	A study of the grey squirrel. Studio and film. — In the studio, the animateur talks about the peculiarities of the red squirrel. — Film showing the flying squirrel or flying phalanger. — In the studio, hints on the construction of traps and cages.

Title	« The constants of physics »
Authors	Dr. Patterson Hume — Dr. Donald Ivey

Producer	Neil Andrews
Film	16 Comopt
Duration	29 mins. 20 secs.
Language	English
Level	Secondary education
Subject	Science
Educational purpose	To help students to develop a rational attitude towards science by looking at the fundamentals of physics in a way not generally possible in the classroom.
Subject-matter	Although we still find it convenient to subdivide physics into separate fields such as mechanics, electricity, magnetism, optics, heat and so on..., we now realize the extent to which these fields are interdependent. It was the knowledge of the finite speed of light which helped to break down the compartments of physics. The constant « C » is fundamental not only in optics, but also in other fields. This programme describes some of the measurements of « C » which have been made, and attempt to show why such measurements were, and are, important.

Title	« Einstein, man and mathematician »
Author	Lister Sinclair
Producer	James Murray
Film	16 Comopt
Duration	28 mins. 50 secs.
Language	English
Level	Programme intended for adults
Subject	Science
Subject-matter	The life and work of the great mathematician, Einstein.

Title	« Elements of Anthropology »
Author	Guy Dubreuil
Producer	Guy Comeau
Film	16 Sepmag
Duration	45 mins.
Language	French
Level	Higher education
Subject	Anthropology
Subject-matter	This series of 30 programmes consisted of an introduction to some of the problems of anthropology in the light of certain data and theories peculiar to the main branches of the science. The evolution of man to his present physical and cultural state was shown, and ancient and contemporary societies were compared to illustrate the evolutionary process and to enable the abstraction of laws governing the functioning of human societies. Lesson XV consists mainly of three interviews the ethnologist conducted with members of a community in Martinique.

UNIVERSIDAD CATOLICA — Chile

Title	« Our world »
Producer	Mario Baeza
Videotape	525 lines
Duration	16 mins. 22 secs.
Language	Spanish
Level	Secondary education
Subject	Science (anatomy)
Educational purpose	Complementary education
Subject-matter	A poem by Pablo Neruda introduces the theme to us. The position of the liver in the human body, its specific functions and its relation with the various anatomical systems are described.

Title	« Adolescence »
Author	I.N.A.P. (Sara Jacobson)
Producer	Régis Bartizagui
Videotape	525 lines
Duration	23 mins. 52 secs.
Language	Spanish
Level	Programme intended for adults
Educational purpose	Development of the community.
Subject-matter	The problem of the lack of understanding between parents and children is presented by means of drama, and a psychological attitude is suggested as the beginning of a solution.

RADIODIFFUSION-TÉLÉVISION CONGOLAISE — Congo Brazza

Title	« The bananatree »
Author	Centre national documentaire et de Recherche pédagogique
Producer	T. Nzengani
Film	16 Commag
Duration	20 mins. 20 secs.
Language	French
Subject-matter	The aim of the programme is a detailed study of the banana-tree : the physical constitution, method of reproduction and fruit of the banana-tree. Some characteristics of banana production in the Congo. The lesson is explained with the help of drawings.

Title	« The fire »
Author	Centre national documentaire et de Recherche pédagogique
Film	16 Commag
Duration	14 mins. 30 secs.
Language	French
Level	Primary education

Subject	Foreign language
Subject-matter	The Congo-Brazza has been chosen as a pilot-area for the experimentation of the language teaching methods of the B.E.L. (Bureau d'Études et de Liaisons pour l'enseignement du français à l'étranger). This programme is an illustration of that teaching.

DEUTSCHER FERNSEHFUNK — East Germany

Title	« At the garage — English for you »
Authors	Graf — S. Hoffmann — F. Klein
Producer	E. Barthel
Film	35 Comopt
Duration	25 mins.
Languages	German and English
Level	Secondary education Programme intended for adults : basic education
Subject	English
Educational purpose	The series is meant to provide a basic knowledge of the English language in the 7th and 8th forms and for all interested adults.
Subject-matter	Tom works in a garage. Unexpectedly, he has to repair the sports-car of a young lady, because the engine won't start. Tom easily finds out what is wrong : there is no petrol in the tank. The programme gives a small amount of essential vocabulary to do with car-engines.

Title	« Our white gold »
Authors	Rudi Gruhn — Hans Günther
Producer	Hans Schroeder
Film	16 Comopt
Duration	25 mins.
Language	German
Level	Programme intended for adults
Subject	Agriculture
Subject-matter	The programme deals with the problems raised by the reorganization of sugar production. The fundamental role of the sugar-refinery is shown in a new light.

Title	« Russian for you — I don't like to be late »
Authors	Maja Beck — Inge Wolter
Producer	Ruth Heucke-Langenscheidt
Film	35 Comopt
Duration	27 mins. 20 secs.
Languages	German and Russian
Level	Programme intended for adults : basic education
Subject	Foreign language
Subject-matter	In this 49th programme, Larissa and Shenja are to meet near the Moscow river, at the Chimki harbour. But, unfortunately, Larissa is late.

DANMARKS RADIO — Denmark

Title	« The picture-hunter »
Authors	R. Sneum — M. Osterberg
Producer	M. Winkler
Videotape	625 lines
Duration	25 mins. 20 secs.
Language	English
Level	Secondary education
Subject	Art and painting
Educational purpose	The role of imagination in pictorial creation. This series of programmes, which is intended for pupils of secondary school classes, aged 12-15 aims at encouraging the children's creativity. It is also designed to show teachers new ways of teaching painting.

Title	« 500 million people »
Authors	Ejnar Gjelstrup — B. Rasmussen
Producer	B. Rasmussen
Videotape	625 lines
Duration	27 mins. 20 secs.
Language	English
Level	Higher education
Subject	History
Educational purpose	To confront students with the problems in developing countries.
Subject-matter	This programme is the last in a series about present day India, designed for students in higher education.

OY YLEISRADIO AB. — Finland

Title	« The symphony orchestra »
Author	Errkki Pohjola
Producer	Seppo Miettinen
Videotape	625 lines
Duration	21 mins. 8 secs.
Language	Finnish
Level	Primary and secondary educations
Subject	Music
Subject-matter	We attend the rehearsal of a symphony orchestra and at the same time get to know the structure of the orchestra.

INSTITUT PÉDAGOGIQUE NATIONAL — France

Title	« By folding twice »
Author	M. Wattiaux

Producer	M. Vincent
Film	16 Sepmag
Duration	20 mins.
Language	French
Level	Secondary education
Subject	Mathematics — 2rd form
Educational purpose	Applied exercises integrated in the lessons.
Subject-matter	By folding paper twice, straight lines and sections of straight lines are found and the different types of angles are studied.

Title	« Little machines »
Author	M$^{\text{me}}$ Picard
Producer	B. Planque
Film	16 Sepmag
Duration	27 mins.
Language	French
Level	Teacher training
Subject	Teaching methods
Educational purpose	Introduction by means of games to modern mathematics, for children aged 6 to 10.
Subject-matter	Children's games can introduce many concepts of primary importance in mathematics : group, relation, function.

Title	« The Characters » of La Bruyère
Author	M. Scherrer
Producer	E. Rohmer
Film	16 Sepmag
Duration	23 mins.
Language	French
Subject	Literature
Educational purpose	To suggest an approach to a work of literature.
Subject-matter	In a completely 17th century setting, the author of the programme presents « automatons », « machines » according to the Cartesians. Characters, interpreted in the style of silent films, in conjunction with the original text of La Bruyère, conjure up the different portraits selected.

Title	« Discovering (or uncovering) words »
Film	16 Sepmag
Duration	26 mins. 17 secs.
Language	French
Level	Programme intended for adults

CENTRE AUDIO-VISUEL DE L'ÉCOLE NORMALE SUPÉRIEURE DE SAINT-CLOUD — France

Title	« Congenital diseases »
Author	M. Lamy
Producer	M. Godevais
Film	16 Sepmag
Duration	36 mins.
Language	French
Level	Higher education — programme intended for adults : vocational training
Subject	Medicine
Educational purpose	Information for general practitioners.

Title	« Les grenades » (The Pomegranates)
Author	R. Etiemble
Producer	J. Frapat
Film	16 Comopt
Duration	21 mins.
Language	French
Level	Higher education
Subject	Literature
Educational purpose	Analysis of Paul Valéry's text.

O.R.T.F. — France

Title	« In France, with Nicolas »
Author	Marie-Thérèse Moget
Producer	Voix et Images de France
Film	16 Comopt
Duration	7 mins.
Language	French
Level	Programme intended for adults. social advancement
Subject	French
Educational purpose	Teaching French abroad.
Subject-matter	Sketches from everyday life; cartoons in colour emphasize the didactic nature of the programme.

Title	« Change of connection »
Authors	M. Loie — Machuel
Producer	M. Versant
Videotape	625 lines
Duration	30 mins.
Language	French
Level	Programme intended for adults. vocational training
Subject	Electronics

Subject-matter	— Reminder of basic logical functions : Karnaugh's tables, Boole's algebra. — Introduction to sequential circuits and circuits of enumeration. — Introduction to sequential circuits. — Memory function. — Introduction to circuits of enumeration.

NEDERLANDSE TELEVISIE STICHTING — Netherlands

Title	« Human solidarity »
Authors	C. Rudolph, W. Zwerus
Producer	W. Zwerus
Videotape	625 lines
Duration	22 mins. 55 secs.
Language	Dutch
Subject	Sociology
Educational purpose	Human behaviour as a reaction to possibilities of communication in contemporary society.
Subject-matter	Organized social life can be disturbed in two ways. Both have serious consequences for human behaviour as a reaction to events and the resulting situations. 1. Catastrophes : floods, earthquakes. 2. War. Attention is centered on human behaviour as a response to circumstances. Finally we see what can be done to overcome difficulties.

Title	« Man and society »
Author	W. Witteveen
Producer	W. Witteveen
Videotape	625 lines
Duration	24 mins. 41 secs.
Language	Dutch
Level	Higher education
Educational purpose	To encourage the pupils to think about the meaning of social relationships and to call on their own experience.

Title	« Nuclear physics »
Author	K. L. A. Weimar
Producer	Bob Vetter
Videotape	625 lines
Duration	28 mins. 48 secs.
Language	Dutch
Level	Higher education — programme intended for adults. social advancement.
Educational purpose	In the near future, the number of people interested in nuclear physics and atomic energy is bound to increase, especially as their applications are often described as dangerous. From now onwards it is essential to give reliable information on this subject.

Subject-matter	The increase in the number of neutrons, after nuclear fission, is determined by the multiplication factor. In nuclear weapons this factor is approximately 1. In this lesson, the author K. L. A. Weimar explains how the multiplication factor can be calculated and how nuclear reactors can be controlled.

MAGYAR RADIO ES TELEVIZIO — Hungary

Title	« Television in primary schools »
Author	Mrs. J. Borus
Producer	Janes Pasztory
Film	16 Sepmag
Duration	30 mins.
Language	Hungarian
Level	Primary education
Educational purpose	To show the importance of teaching by television and the help it can give to primary schools.
Subject-matter	Documentary film choosing programmes by the Hungarian School Television Service.

Title	« Meeting with the writer Ferenc Mora's heroes. The little Cossack, a treasure-seeker. »
Author	Ferenc Mora
Producer	Endre Orbok
Film	16 Sepmag
Duration	30 mins.
Language	English
Educational purpose	To convey to the pupils the author's basic ideas and his artistic and pedagogic intentions.
Subject-matter	The director converses with the characters in question and shows some scenes of primary importance.

Title	« The nomenclature of acids »
Film	16 Sepmag
Duration	13 mins.
Language	Hungarian

Title	« The Roman Empire. The struggle between Rome and Carthage »
Author	Geza Hegedus
Producer	Sandor G. Szonyi
Film	16 Sepmag
Duration	20 mins.
Language	English
Subject-matter	This programme presents scenes from Roman life, at the time of the Republic and during the Empire.

Title	« Similarity »
Author	Z. Imrecze
Producer	Pal Zolnay
Film	16 Sepmag
Duration	14 mins.
Language	English
Educational purpose	Practical use of elementary mathematics learnt previously.
Subject-matter	The pupils already know the notion of similarity and the similarity of triangles. After a short general survey, they come to the practical present day applications of similarity. We present, for example, the Institute of Cartography.

RADIO TELEFIS EIREANN — Ireland

Title	« Momentum »
Author	Dr Frank Anderson
Producer	Justin Nelson
Videotape	625 lines
Duration	28 mins. 36 secs.
Language	English
Level	Programme intended for adults.
Subject	Experimental physics
Subject-matter	The formula that « impulse equals change of linear momentum » is demonstrated. Special mention is made of impulsive forces as occur in the case of a hammer blow or in collisions.

Title	« From childhood to adolescence »
Authors	T. Kellagnan, L. Gorman
Producer	Gerry Murray
Video-tape	625 lines
Duration	39 mins. 54 secs.
Language	English
Level	Programme intended for adults.
Subject	Psychology
Educational purpose	To inform parents and teachers of the necessity for guidance and understanding to help the child in his choice of career and to give practical information on the guidance services available; to make parents aware of the kind of environment their children will encounter in an Ireland in transition from an agricultural to an industrial society, from the isolation of the past towards participation in a world community.
Subject-matter	This programme traces the development of adolescents between 14 and 15 years old. The many physical, intellectual and psychological changes which occur at this period, cause the adolescent to oscillate between extremes. It is a period of storm and stress, both for the parents and the child.

Title	« Mixing sets »
Author	Dr Frank Anderson
Producer	Donald Earner
Videotape	625 lines
Duration	27 mins. 7 secs.
Language	English
Level	Programme intended for adults
Subject	Mathematics
Subject-matter	The importance of the empty set is stressed by considering many examples.

Title	« The medieval English colony »
Author	D^r^ J. F. Lydon
Producer	Gerry Murray
Videotape	625 lines
Duration	33 mins. 58 secs.
Language	English
Level	Programme intended for adults.
Subject	Irish history
Educational purpose	To present a panorama of Irish history from early times to the present, emphasizing the positive contribution of the invaders to the pattern of modern Ireland.
Subject-matter	For many people, the twelfth century Anglo-Norman invasion of Ireland and the colonization which followed, are important only because they mark the beginning of seven centuries of English rule in Ireland. On the other hand, much that we value in what we have inherited from the past was the positive benefit which resulted from that colonization. Many strands have been woven into the fabric of Irish history.

Title	« The earth, the weather, the seasons »
Author	Justin Keating
Producer	Sheamus Smith
Videotape	625 lines
Duration	20 mins. 40 secs.
Language	English
Level	Higher education
Subject	Agriculture

INSTRUCTIONAL TELEVISION TRUST — Israel

Title	« The circle »
Author	Shlomit Dekel
Producer	Haim Tchelet
Videotape	625 lines
Duration	26 mins. 50 secs.

10

Language	Hebrew
Level	Primary education — programme also intended for adults.
Educational purpose	Teaching geometry
Subject-matter	1. Animated summary and revision of geometric elements, previously used, plus definitions of (*a*) circle, (*b*) radius, (*c*) chord, (*d*) diameter. 2. Principle of the circumference of the circle. The diameter as illustrated by a fairy-tale. 3. The area of a circle.

Title	« Good-bye Mr. Smith »
Author	Sheila Ackerman
Producer	Judith Lotz
Videotape	625 lines
Duration	20 mins. 14 secs.
Language	English
Level	Secondary education
Educational purpose	The teaching of English
Subject-matter	1. Opening. 2. Dialogue (between the teacher and Mr. Smith) — revision of previous lessons — context and structure. 3. Dialogue and action : The teacher and Mr. Smith build a bicycle-shed to illustrate a new teaching item — the three degrees of comparison of the adjective. 4. Dialogue : To conclude this group of four lessons, the teacher and Mr. Smith revise the subject-matter of the series.

Title	« Mathematical structures »
Author	Benjamin Mayer
Producer	Menaklem Shuval
Videotape	625 lines
Duration	18 mins. 32 secs.
Language	Hebrew
Level	Secondary education
Educational purpose	Mathematical structures — introduction to negative numbers and algebra.
Subject-matter	— Non-mathematical structures. The dinosaur : How its characteristics were deduced from similarity to living animals. Generalities : structures and deductions. — Mathematical structures — the group — deductions made from the structure of an additive modular group are valid also for a multiplicative modular group, but not for an additive group. A problem. How to extend arithmetical numbers to a field.

RADIOTELEVISIONE ITALIANA — Italy

Title	« It's never too late (letter H) »
Author	Alberto Manzi
Producer	Gigliola Rosmino

Film	35 Comopt
Duration	28 mins. 50 secs.
Language	Italian (with a summarized commentary in English)
Level	Programme intended for adults literacy teaching
Subject	Popular education
Subject-matter	By means of drawings, some words which include the sounds 'chi' (ki), 'che' (ke), 'ghi' and 'ghe' are shown. The letter « H » is presented. It is also shown how words can change their meanings if the letter « H » is omitted. By the use of several cartoons different examples of this omission are shown and further uses of the letter « H » in exclamations are shown by means of a drawing. The teacher stresses the third use of the letter « H » in verbal forms such as « ho » (I have), 'hai' (you have), 'hanno' (they have) and so on... The subject matter of the lesson is summarized by means of the luminous blackboard and the letter « H » is shown both printed and handwritten.

Title	« Microwaves. study of the ionosphere by artificial satellites »
Author	Professor Nello Carrara
Producer	Ing. Giodano Repossi
Film	16 Comopt
Duration	18 mins. 35 secs.
Language	Italian
Level	Higher education
Subject	Physics
Educational purpose	To facilitate the modern approach to physics, chemistry, biology and mathematics.
Subject-matter	In this second programme on microwaves, Professor Carrara of the University of Florence explains how these waves are used to study the ionosphere from ground-level or from artificial satellites. A series of animations shows the variations in density and velocity of the electrons in the troposphere, in the stratosphere and in the mesosphere. Up to an altitude of nearly 600 kilometres these variations can be measured by means of electro-magnetic impulses coming from ground-level transmitters at very low frequencies. From above, the ionosphere can be effectively studied by means of similar electro-magnetic signals transmitted from artificial satellites using small powerful devices, two examples of which are shown in close-up in this programme. These signals, picked up at ground-level by a network of laboratories, including the Florence Microwave Centre, enable the electronic content of the ionosphere to be investigated, and its variations in time to be determined.

Title	« It's never too late (use of the telephone) »
Author	Alberto Manzi
Producer	Gigliola Rosmino
Videotape	625 lines
Duration	28 mins. 30 secs.
Language	Italian

Level	Programme intended for adults : basic education
Subject	Popular education
Educational purpose	To teach certain essential rules of behaviour and language in using a telephone.
Subject-matter	By means of five amusing sketches, the most common faults of language and behaviour in using a telephone are brought out, for example the habit of wasting time on trivialities or preventing the other person from speaking. Between the sketches, the teacher asks the three pupils in the studio to note down their observations which are later discussed in order to emphasize the basic rights and obligations to do with this aspect of social life.

RADIODIFFUSION-TÉLÉVISION IVOIRIENNE — Ivory Coast

Title	« The training of teachers »
Film	16 Comopt
Duration	34 mins. 45 secs.
Language	French.

NIPPON HOSO KYOKAI — Japan

Title	« Bread and milk »
Producer	Takashi Ideno
Film	16 Comopt
Duration	30 mins.
Language	English
Educational purpose	To teach words and phrases methodically to dumb children and help parents to enable them to apply the same method at home.
Subject-matter	The children are helped to learn nouns by watching mouth movements. It is done by repeating a simple playlet and by the method of seeing and touching. In the next stage, the children are taught to pronounce these words. After revising the basic elements of pronunciation, the teacher and child stand in front of a mirror facing each other. The lesson begins. Sachie and Hiroyuki pronounce words like « vehicle », « animals », « fruit » and « food » by imitating their teacher. Then, pronunciation instructions for 2-year-old children are discussed by guests invited to the studio.

Title	« The pump »
Producer	Michiko Ito
Videotape	525 lines
Duration	20 mins.
Language	English
Level	Primary education
Subject	Physics
Educational purpose	To make children understand the logical continuity of natural phenomena by means of an audio-visual programme.

Subject-matter	The mechanism of the pump is explained with the help of mock-ups and animation films. The correlation between the movements of the valves and the piston is stressed.

Title	« Atmospheric pressure »
Producer	Hidehisa Hirano
Film	16 Comopt
Duration	20 mins.
Language	English
Level	Secondary education
Subject	Physics
Educational purpose	To complement the study of the science syllabus by means of visual presentation. The series is divided into two parts : the first — physics, the second — biology.
Subject-matter	The pressure of the air surrounding the earth is demonstrated by various experiments, particularly by the use of an instrument which measures the rise in level of water caused by atmospheric pressure. In this way, the force of this pressure can be evaluated.

Title	« Crop improvement »
Producer	Hiroshi Motozawa
Film	16 Commag
Duration	30 mins.
Language	English
Level	Programme intended for adults
Subject	Agriculture
Educational purpose	Introduction of more modern agricultural techniques, improved management and problems relating to the improvement of living conditions.
Subject-matter	The process of improving the crops by the use of a special fertilizer is illustrated.

MALTA BROADCASTING AUTHORITY AND MALTA TELEVISION SERVICE — Malta

Title	« English for to-day »
Author	Robin Allan
Producer	Robin Allan
Videotape	625 lines
Duration	20 mins.
Language	English
Level	Secondary education
Educational purpose	English language and literature
Subject-matter	Opening of the series. Explanation of the importance of modern English. Pedantic and anachronistic English explained. The programme ends with an extract from a modern novel.

DIRECCION GENERAL DE EDUCACION — Mexico

Title	« The donkey drinks »
Film	16 Comopt
Duration	15 mins.
Language	Spanish
Level	Programme intended for adults : literacy teaching.
Educational purpose	Teaching the letter « B ». The series aims to teach adults how to read and write.
Subject-matter	The lesson starts by revising the last programme (letter « R »). The new letter is introduced by showing a short film about a young Mexican called Lalo and his donkey. The television teacher, using the new element, reads and writes short sentences. She shows some other pictures and writes the letter « B ». Finally she sums up the whole programme.

Title	« Biology »
Videotape	625 lines
Duration	28 mins.
Language	Spanish

NORSK RIKSKRINGKASTING — Norway

Title	« Playing Cowboys and Indians »
Author	Egil Eikvil
Producer	Egil Eikvil
Film	16 sepmag
Duration	15 mins. 55 secs.
Language	Norwegian
Level	Primary education
Subject	Ethics
Educational purpose	To give children material for discussions in the classroom on ethical subjects. It is left to the children to discuss and give answers to the problems.
Subject-matter	Kjell, Tore and Eric are friends. After school, they take the bus to go and play Cowboys and Indians in the forest. Tore has a new knife and a box of matches. At the bus-stop he sets fire to the time-table and in the bus he makes a deep cut in the leather seat. In the forest the boys drive nails into the trees and Tore carves the bark. Then, they play at Cowboys and Indians. While they are playing, Eric discovers a bird's nest but does not touch the eggs. Kjell and Tore try to capture him but he escapes and gets lost in a plantation of pine trees. All this had been watched by a forester.

Title	« What happened next ? »
Author	Egil Eikvil
Producer	Egil Eikvil

Videotape	625 lines
Duration	11 mins. 19 secs.
Language	Silent programme — only musical accompaniment
Level	Primary education
Subject	Native language
Educational purpose	To encourage the pupils to continue and complete the programme by written compositions, class discussions or dramatization.
Subject-matter	(No words.) The plot is very simple. A little boy visits a zoological museum. He is strolling along looking at the animals. The only people present are the guardian of the museum and the cloakroom attendant. In the museum there is a door which is marked « No Entry ». The boy is very anxious to see what is behind and, noticing that he is not being observed by the guardian, he slips through the door. A strange noise is heard. What has happened?

POLSKIE RADIO I TELEWIZJA — Poland

Title	« Light phenomena »
Author	St Jonczyk
Producers	J. Gierak, T. Karpecki
Film	16 Sepmag
Duration	30 mins.
Language	Polish
Level	Primary education
Subject	Physics

Title	« Thrust and pressure »
Author	Witold Lubbe
Producer	Tadeusz Karpecki
Film	16 Sepmag
Duration	30 mins.
Language	French
Level	Primary education
Subject	Physics

Title	« We can't do without chemistry »
Author	Szwarc Bronikowski
Producer	Szwarc Bronikowski
Film	16 Sepmag
Duration	20 mins.
Language	Polish
Level	Secondary education
Subject	Chemistry

Title	« The lark »
Author	Jean Anouilh
Producers	Adam Hanuszkiewicz and Edwarda Paszkowska
Film	16 Sepmag
Duration	40 mins.
Language	Polish
Level	Secondary education
Subject	Literature

Title	« Russian by television »
Film	35 Comopt
Duration	20 mins.

Title	« Reminders and advice »
Film	16 Sepmag
Duration	10 mins.
Language	Polish

RADIOTELEVISAO PORTUGUESA — Portugal

Title	« Drawing-lesson »
Author	Mariana Sousa
Producer	A. Cardoso
Videotape	625 lines
Duration	20 mins.
Language	Portuguese
Level	Secondary education — programme intended for adults : basic education
Educational purpose	Learning drawing as part of the curriculum of the Telescola course (the first two years of secondary education — grammar — technical — modern school).
Subject-matter	Simple idea of ornamentation. 1. Natural form of elements and its value in decoration. 2. Necessity of adapting natural forms for decorative purposes. 3. Changes in the form of elements. 4. During the break, elements suggested. 5. Forms of elements suggest innumerable changes. Symmetrical and asymmetrical changes. 6. Practical applications.

Title	« French lesson »
Authors	H. Dias — G. Guitton
Producer	J. Tristao
Videotape	625 lines
Duration	20 mins.

Language	French
Level	Secondary education — programme intended for adults : basic education
Subject	French, 1st year
Educational purpose	Learning French as part of the curriculum of the Telescola course (the first two years of secondary education — grammar — technical — modern school).
Subject-matter	Oral phase : use of prepositions and possessive adjectives. 1. *a*) Description of actions. *b*) Use of prepositions *sur*, *sous* and *dans* — with examples. 2. During the break, a short film on the subject of the lesson. 3. Use of possessive adjectives with examples. Photographs illustrate a dialogue. 4. Illustrated summary of the point of the lesson.

TELEVISION ESPAÑOLA — Spain

Title	« Civics »
Author	Jesus Garcia Jimenez
Producer	Pablo Nunez
Film	35 Comopt
Duration	20 mins.
Language	Spanish (sub-titled)
Level	Programme intended for adults : social advancement
Subject-matter	1. Respect the old. 2. Think of your neighbours. 3. How to use an umbrella. 4. Respect women. 5. Aid on the road. 6. Be courteous in public. 7. Arrive on time at public performances. 8. Speak properly. 9. Be punctual. 10. Work well done. 11. Observe the Highway Code.

Title	« Hand »
Author	Antonia Martin
Producer	Ricardo Arias
Videotape	625 lines
Duration	25 mins.
Language	Spanish
Level	Programme intended for adults : teaching literacy
Subject-matter	Presentation of the word « Mano » by the global method of teaching reading and writing.

SVERIGES RADIO — Sweden

Title	« Hamisi, 16 years old »
Authors	Bengt Linne — Mogens Winkler
Producers	Bengt Linne — Mogens Winkler
Film	16 Sepmag
Duration	24 mins. 50 secs.
Language	Swedish
Level	Primary and secondary education
Subject	Sociology — international teaching
Educational purpose	Life in the developing countries.
Subject-matter	Hamisi lives in Tabora, a town in the middle of Tanzania. We see him at school, at play and at home. He goes to standard 8 and dreams of continuing his studies in a secondary school. If not, he will perhaps become one of the thousands of unemployed in this country.

Title	« Water, a chemical reaction »
Author	Professor Axel Johanson
Producer	Bertil Allander
Videotape	625 lines
Duration	21 mins.
Language	English
Level	Secondary education
Subject	Chemistry
Educational purpose	To introduce, in a lively way, the formula of a chemical reaction Series to make the pupils understand the basic concepts of chemistry.
Subject-matter	A balloon containing hydrogen is burst. When the hydrogen burns in air a colourless liquid is formed which when analysed proves to be water. An experiment under controlled conditions takes place during which the pupils are able to observe the respective amounts of hydrogen and oxygen and are able to arrive at the conclusion that the formula of water is H_2O. This is followed by animation sequences and conclusions are drawn. The formula describes a real process.

Title	« Look »
Author	Dennis Gotobed
Producer	Po Lundberg
Film	16 Sepmag
Duration	17 mins.
Language	English
Level	Programme intended for adults
Subject	English language
Educational purpose	To stimulate the practical use of English : to vary exercises on the basic vocabulary.
Subject-matter	Peggy is standing on a platform on top of a high tower looking through

a telescope. Various things happen. Peggy stimulates audience participation. Bob hanging from a parachute, lands on the platform. Peggy, Bill and Bob talk about various topics. Through the telescope, they discover Alice Babs, the singer. She sings a song and the viewers sing with her. The programme ends with a fight between a policeman and some gangsters, all wearing old-fashioned clothes.

SOCIÉTÉ SUISSE DE RADIODIFFUSION ET TÉLÉVISION — Switzerland

Title	« Casting a bell »
Author	Kurt Felix
Producer	Erich Rufer
Film	16 Sepmag
Duration	25 mins. 30 secs.
Language	French
Level	Primary education
Subject	Technology
Subject-matter	This programme is presented as an example of the collaboration between two regions of different languages. In fact, this programme is intended for the French Swiss Television and was originally produced by German Swiss Television.

Title	« Geneva, the international Swiss city »
Author	Joseph Weiss
Producer	Erich Rufer
Film	16 Sepmag
Duration	30 mins. 25 secs.
Language	German
Level	Primary and secondary education
Subject	Geography
Subject-matter	The city of Geneva is accessible by various routes and means of transport: by car, boat, air, rail, at Geneva Cointrin Airport or at a frontier-post. First we are given a general panorama of the city from the air, then we see each quarter with its features of interest: the cathedral, Rousseau Island, the Monument of the Reformation, old streets and so on..., then the cosmopolitan city of tourists, Genevan industries; C.E.R.N. — the European Centre of Nuclear Research; the palace of the League of Nations — European headquarters of the United Nations and of several organisations dependent on U.N.O.; the International Red Cross.

ASSOCIATED TELEVISION — United Kingdom

Title	« Saint Joan »
Author	George Bernard Shaw
Producer	Donald Carter

Film	16 Comopt
Duration	24 mins. 38 secs.
Language	English
Level	Secondary education intended for adults
Subject	Drama
Educational purpose	To give students dramatic presentations of plays, selected by national examination authorities, in a new way, showing that conflict in a variety of forms is the essence of drama from Elizabethan times to the present day.
Subject-matter	The programme presents Joan at first as irrepressible fresh from her farm and later as the victorious Joan who becomes aware that jealousy and hate are the attendants of success. Joan's courage and defiance of authority and the Establishment are portrayed in the programme which arouses our compassion and provides a series of magnificent performances.

BRITISH BROADCASTING CORPORATION — United Kingdom

Title	« Dairy farming to-day »
Producer	Gordon Mosely
Videotape	625 lines
Duration	10 mins. 29 secs.
Language	English
Level	Programme intended for adults : vocational training
Educational purpose	To keep those concerned with the management of dairy herds in touch with the latest developments.
Subject-matter	The programme opens with an expert in the studio who demonstrates, with diagrams, the structure of the cow's udder and describes the physical processes that takes place during milking. The flow of milk, he points out, is interrupted if the cow is not at ease. A film then follows which shows milking equipment, the actual milking procedure, and the precautions which must be taken. This extract shows milking procedure and equipment.

Title	« English drama »
Producer	Ronald Smedley
Videotape	625 lines
Duration	13 mins. 22 secs.
Language	English
Level	Programme intended for adults : vocational training
Educational purpose	To aid secondary school teachers of English in creative drama.
Subject-matter	The first part of this programme shows a group of secondary school boys and girls acting out some of their ideas about the character of Peer Gynt, whose story had been told in a previous programme. The second part, which is the excerpt chosen for this compilation, is on film. It shows a woman teacher working with a group of 30 fourteen-

year-old boys in a school in North-East England. They are new to the school and new to drama and we see them act out a story of their own choosing about a gangster caught after committing a murder.

Title	« Experiment in physiology »
Producer	Humphrey Barron
Videotape	625 lines
Duration	11 mins. 8 secs.
Language	English
Level	Programme intended for adults : vocational training
Subject	Science : biology
Educational purpose	A refresher course for biology teachers in secondary schools.
Subject-matter	The programme begins with a discussion between two biology teachers comparing the new and conventional approaches to biology teaching. They illustrate their remarks with a studio demonstration and with film taken during a biology period in a secondary school. They close with an evaluation of the new approach. This extract compares the two approaches.

Title	« In charge of men »
Producer	Tony Matthews
Videotape	625 lines
Duration	7 mins. 48 secs.
Language	English
Level	Programme intended for adults : vocational training
Subject	Industrial affairs
Educational purpose	To present current thinking about the role of the manager in industry and commerce.
Subject-matter	The programme opens with a discussion amongst a group of managers talking about the difficulties they experience in their relationships with the men under them. To illustrate some of these, a dramatized scene is played out with a recently appointed foreman in a toy-factory. Three short dramatic sequences follow, highlighting the foreman's relationships with the general manager, the shop steward and the operatives. The implications of these are then analysed by an expert. The excerpt selected for this compilation contains the three last sequences.

Title	« Quick, porter, we are late »
Authors	Joe Cremona, Michel Faure
Producer	Ronald Smedley
Videotape	625 lines
Duration	12 mins. 20 secs.
Language	French
Level	Programme intended for adults : basic education
Subject	Foreign languages
Educational purpose	To teach French to adult beginners.

Subject-matter	The programme begins with a studio-scene in which Jean-Paul, a photographer, and Françoise, his favourite model, are buying their tickets at the Gare de Lyon and talking to the woman clerk. They also buy a book and talk to a porter. The whole scene is laced with humour and played sufficiently slowly for a beginner to follow. The middle of the programme is taken up with straight teaching on words and phrases used in the scene. Finally the episode is repeated to drive home the teaching points. The excerpt selected for this compilation comes from the beginning of the programme.

CENTRE FOR EDUCATIONAL TELEVISION OVERSEAS — United Kingdom

Title	« The upper course of rivers »
Author	Alan Strowger
Producer	Alan Strowger
Film	16 Comopt
Duration	18 mins. 28 secs.
Language	English
Level	Secondary education
Subject	Geography
Educational purpose	Direct support for the classroom teacher.
Subject-matter	Mechanical erosion caused by a river is due to the stones and pebbles which the river carries down with it. In the fast-flowing sections of the upper course, V-shaped valleys, gorges, rapids and waterfalls are all formed by this type of erosion. Chemical erosion occurs mainly where rivers flow over limestone rocks and a characteristic feature of limestone scenery is underground rivers.

Title	« Lines and equations »
Author	Peter Combes
Producer	Peter Combes
Film	16 Comopt
Duration	17 mins. 8 secs.
Language	English
Level	Secondary education
Subject	Mathematics
Educational purpose	Direct support for the classroom teacher.
Subject-matter	An automatic flame-cutting unit is used to introduce the concept of Cartesian axes. The number pairs satisfying a first degree equation in two variables are seen to give a straight-line graph. A simple example of a boat's out and return journey gives two such lines whose intersection provides the solution of two simultaneous equations.

Title	« Reflection »
Author	Gordon Severn
Producer	Gordon Severn

Film	16 Comopt
Duration	18 mins.
Language	English
Level	Secondary education
Subject	Science
Educational purpose	Direct support for the classroom teacher.
Subject-matter	This is the third in a series of nine programmes covering that section of the Overseas School Certificate syllabus, which deals with light. The laws of reflection, the formation and characteristics of the image formed by a plane mirror are taught by means of film animation and experiments.

A.B.C. TELEVISION LTD. — United Kingdom

Title	« First steps in physics »
Author	Gerald Hacker
Producer	John Russel
Film	16 Comopt
Duration	19 mins. 23 secs.
Language	English
Level	Secondary education : programme intended for adults.
Subject	Science — physics
Educational purpose	To teach physics up to G.C.E. « O » Level standard (that is the end of the first stage of the secondary school course).
Subject-matter	Density is shown as a means of comparing the masses of substances of equal volume. It is demonstrated how to measure the weight of air or the density of a given object. The idea of pressure exercised from top to bottom leads to an explanation and a demonstration of Archimedes' principle. Conditions necessary for flotation are illustrated by using films and cartoons of ships, submarines and hydrogen balloons.

GRANADA TELEVISION LTD. — United Kingdom

Title	« Unmarried mothers »
Producer	Elaine Grand
Film	16 Commag
Duration	20 mins. 8 secs.
Language	English
Level	Secondary education
Subject	Sociology
Educational purpose	To encourage serious discussion between teachers and 15-16-year-old pupils on aspects of sex, marriage, family life and friendship.
Subject-matter	A group of 15-16-year-old boys and girls discuss the problems of unmarried mothers with Mrs. Crabbe, the Secretary of the National Council for the unmarried mother and her child. Among the subjects covered in the discussions are the type of girls who become unmarried mothers, adoption and the attitude of parents.

WESTWARD TELEVISION LTD. — United Kingdom

Title	« Numbers and patterns »
Author	Ray Watkinson
Producer	Julia James
Film	16 Comopt
Duration	21 mins. 15 secs.
Language	English
Level	Programme intended for adults
Subject	Mathematics
Educational purpose	Course of 24 programmes on the new methods of teaching mathematics for teachers in primary schools.
Subject-matter	The lecturer insists on the necessity of maintaining the relation between the abstract (numbers) and the concrete. Having already treated this subject for infants and lower juniors, he applies these ideas to the upper juniors. He uses milk bottles, draughtsmen, eggs, to illustrate prime numbers, factors, square and cubic numbers.

NATIONAL EDUCATIONAL TELEVISION — United States of America

Title	« The gathering millions »
Film	16 Comopt
Duration	1 hour
Language	English

Title	« Writings on the sand »
Film	16 Comopt
Duration	1 hour
Language	English

BAYERISCHER RUNDFUNK — West Germany

Title	« Cross-section of Bavarian school television programmes »
Videotape	625 lines
Duration	28 mins. 49 secs.
Languages	French and English
Level	Programme intended for adults.

ZWEITES DEUTSCHES FERNSEHEN — West Germany

Title	« I see something you don't see »
Author	Dr. Tobias Brocher
Producer	Dr. Herta Sturm

Film	16 Sepmag
Duration	29 mins. 40 secs.
Language	German
Level	Higher education
Educational purpose	To extend students' knowledge of modern psychology and teaching methods and to help parents and educationalists.

JUGOSLOVENSKA RADIOTELEVIZIJA — Yugoslavia

Title	« The heretic »
Author	Dragan Jevtic
Producer	Branko Curcic
Film	16 Sepmag
Duration	12 mins.
Language	English
Level	Secondary education : programme intended for adults — basic education
Subject	General education
Subject-matter	The life and work of Galileo Galilei in the context of his time.

Title	« Hypothermia »
Author	Dragan Jevtic
Producer	Branko Curcic
Film	16 Commag
Duration	28 mins.
Language	Yugoslav
Level	Higher education
Subject	Medicine
Educational purpose	General education
Subject-matter	An expert on hypothermia, well-known in Yugoslavia, Mr. Radoslav Andjus, a professor at the University of Belgrade, shows us some work done in the field of clinical death and deep-freezing.

Title	« Detection of radio-active radiation »
Author	Dr. Petar Kulisic
Producer	Srecko Weygand
Film	16 Sepmag
Duration	20 mins.
Language	Yugoslav
Level	Secondary education
Subject	Physics
Subject-matter	In the course of twenty minutes spent in the laboratory of the Nuclear Institute, we get to know the simplest devices and methods for recording radio-active radiation, some characteristics of alpha, beta and gamma

rays, the quantitative measurement of the energy of the radio-active source, the measurement of the coefficient of absorption and thickness of metal sheets and finally, some means of protection against radio-active radiation.

RADIO ZAMBIA — Zambia

Title	« Education by radio »
Film	16 Comopt
Duration	12 mins. 38 secs.
Language	English

As a particulary large number of radio and television programmes were sent in to the Conference, it was not possible to present more than a part of them in the audition and screening sessions organized. The lists a bove give only the programmes presented in these sessions.

Abbreviations

A.B.C.	Australian Broadcasting Commission — Australia
A.B.E.R.T.	Associaçao Brasileira de Emissoras de Radio e Televisao — Brazil
A.B.U.	Asian Broadcasting Union
A.I.R.	All India Radio — India
A.R.D.	Arbeitsgemeinschaft der Offentlich Rechtlichen Rundfunkanstalten der Bundesrepublik Deutschland — West Germany
B.B.C.	British Broadcasting Corporation — United Kingdom
B.R.T.	Belgische Radio en Televisie — Belgium
C.A.V.	Centre audio-visuel de Saint-Cloud — France
C.B.C.	Canadian Broadcasting Corporation/Société Radio Canada — Canada
C.E.T.O.	Centre for Educational Television Overseas — United Kingdom
E.B.U.	European Broadcasting Union
I.L.O.	International Labour Organization
I.P.N.	Institut pédagogique national — France
I.R.T.O.	International Radio and Television Organization
I.T.A.	Independent Television Authority — United Kingdom
I.T.C.A.	Independent Television Companies Association — United Kingdom
J.R.T.	Jugoslovenska Radiotelevizija — Yugoslavia
N.A.E.B.	National Association of Educational Broadcasters — United States
N.B.C.	Nigerian Broadcasting Corporation — Nigeria
N.E.T.	National Educational Television — United States
N.H.K.	Nippon Hoso Kyokai — Japan
O.C.O.R.A.	Office de Coopération radiophonique — France
O.R.T.F.	Office de Radiodiffusion-Télévision française — France

R.A.I.	**Radiotelevisione Italiana — Italy**
R.T.B.	**Radiodiffusion-Télévision belge — Belgium**
R.T.I.	**Radiodiffusion-Télévision ivoirienne — Ivory Coast**
R.T.T.	**Radiodiffusion-Télévision tunisienne — Tunisia**
U.N.E.S.C.O.	**United Nations Educational, Scientific and Cultural Organization**
U.R.I.	**International Radio-Television University**
U.N.T.R.A.	**Union of National Radio and Television Organizations of Africa**
Y.L.E.	**Oy. Yleisradio AB. — Finland**

Technical vocabulary

French	*English*
Accessoires	Property
Accessoiriste	Property man
Alphabétisation	Literacy teaching
Ambiance	Ambiance mood
Animateur (production)	Anchor-man
Animation	Animation
Animation culturelle	Cultural guidance
Apprentissage	Training or apprenticeship
Arrière-plan	Background
Aspects d'un fond	Background aspect
Auto-instruction (méthodes-procédés)	Self-teaching
Auxiliaires audio-visuels	Audio-visual aids
Avant-scène	Downstage
Banc-titre	Caption-stand
Bande annonce	Trailer
Bloc-programme	Continuity-suite; Programme-block [U.S.A.]
Brillance (ou luminance) de l'écran	Screen brightness (or brilliance)
Cabine de contrôle	Monitor room
Cabine d'enregistrement	Recording room
Cabine de projection	Projection room or box

Cabine technique	Technical room
Câble coaxial	Coaxial cable
Cadrage	Framing
Campagne d'alphabétisation	Literacy campaign
Canal (son-image)	Channel
Centre audio-visuel	Audio-visual centre
Centre de documentation	Information Office
Centre d'Orientation (pédagogique, professionnelle)	Vocational, Educational guidance centre
Chaîne	Programme network channel
Chaîne éducative	Educational channel
Chaîne sonore	Central sound system
Champ	Field
Champ (profondeur de)	cf. profondeur
Champ visuel (à distinguer du Champ visuel d'une caméra)	Field of vision
Chariot mobile	Dolly
Cinémathèque	Film library
Circuit fermé (de T.V.)	Closed circuit television
Circuit ouvert (de T.V.)	Open circuit television
Classe pilote	Experimental class
Classe (ou établissement) pilote	Experimental (or pilot) class (institution)
Classe (ou établissement) témoin	Control class (institution)
Classe témoin	Control class or experience class
Collectivité (scolaire) organisée	Organized group (school)
Commentaire	Commentary
Commentateur	Commentator or narrator
Continuité	Continuity
Contre-jour	Back-lighting
Copie	Copy or print
Copie-antenne	Transmission copy
Copie-contact	Contact-print
Copie-étalon	Answer-print
Copie d'exploitation (de distribution)	Final print or release print
Copie optique	Optical print
Copie originale	Master print
Copie de travail	Cutting copy
Cours télévisé ou télécours	Telecourse (U.S.A.)
Cycle (d'études, de formation, etc.)	Course (of studies, training, etc.)
Cycles d'enseignement (ou niveau d'enseignement)	Educational levels (secondary school)

Découpage	Camera or sound script
Décrochage d'émetteur	Opting out of network
Définition (ou norme de télévision)	Picture definition
Descriptif	Treatment
Développement	Development
Développement culturel	Cultural development
Diffusion	Broadcast, wireless transmission
Diffusion omnidirectionnelle	Omnidirectional transmission
Diffusion en direct	Live transmission
Diffusion en différé	Recorded transmission
Disciplines	Branches
Discothèque	Record library
Documentaire	Documentary programme
Document audio-visuel	Audio-visual material
Documents d'accompagnement (des émissions)	Support material
Duplex et multiplex (liaisons en)	Duplex and multiplex links
Écran (grand)	Screen (large)
Éducation des adultes	Adult education
Éducation de base	Fundamental education
Éducation extra-scolaire	Out-of-school education
Éducation parascolaire	Informal education
Éducation permanente	Lifelong education
Éducation populaire	Popular education
Éducation postscolaire	Post-school education
Éducation préscolaire	Pre-school education
Effet	Effect
Effet de bord	Edge-effect
Émetteur	Transmitter
Émetteur universitaire	University station
Émission	Programme; Telecast (U.S.A.)
Émission complémentaire (ou de soutien)	Enrichment programme
Émissions éducatives	Educational broadcasting
Émissions d'enseignement	Instructional broadcasting
Émission d'information des professeurs	Broadcast for teachers
Émission palliative (ou de renforcement)	Direct teaching programme
Émulsion	Emulsion
Émulsion en lumière du jour	Daylight emulsion
Émulsion en lumière artificielle	Artificial light emulsion
Émulsion inversible	Reversible emulsion

Encadrement (personnel, moniteur)	Supervisory staff
Encadrement (d'une collectivité)	Supervisor (group)
Enregistrement	Recording
Enrichissement	Enrichment
Enseignement direct	Direct teaching
Enseignement primaire (ou élémentaire)	Primary (elementary) education
Enseignement programmé	Programmed instruction
Enseignement secondaire	Secondary education
Enseignement supérieur	Higher education
Enseignement technique	Technical education
Enseignement télévisé par correspondance	Television correspondence course
Entraînement	Practical training
Environnement, milieu	Environment
Équipement audio-visuel	Audio-visual equipment
Examen d'entrée	Entrance examination
Examen de passage	Intermediate examination
Examen de qualification	Qualifying examination
Examen terminal	Final examination
Exploitation pédagogique des messages audio-visuels	Educational (or classroom) use of audio-visual signals

Faisceaux hertziens	Radio links, or hertzian beams
Fiches critiques	Comment or assessment cards
Fiches pédagogiques	Teacher's notes
Filmothèque	Film library
Format standard (film)	Standard (film)
Formation accélérée	Intensive training
Formation professionnelle	Vocational training
Formation spécialisée	Specialist training

Générique	Credit-title
Groupe d'écoute collective	Listening, viewing group

Illustrateur sonore	Music assistant
Image	Picture or frame
Image par image	Single frame projection
Insert	Insert
Insonorisation	Sound-proofing
Instituteur	(Primary) school teacher
Instructeur	Instructor
Intégration (des messages audio-visuels)	Integration of audio-visual signals into class teaching

Journaliste de radio	Newsreader
Journaliste de T.V.	Newscaster
Kinescope	Telerecording
Livret (scolaire)	Report book (school)
Longueur d'onde	Wavelength
Lumière (basse)	Lowkey
Lumière (haute)	Highkey
Lumière (principale)	Key light
Lycée	Grammar school (U.K.) or high school (U.S.A)
Lycée expérimental	Experimental secondary grammar school
Machiniste	Scene-shifter
Magnétoscope	Videotape recording
Magnétophone	Tape recorder
Manette de commande d'éclairage	Dimmer quadrant
Manuel (scolaire)	Text-book (school) or manual
Maquillage	Make up
Maquilleur	Make up artist
Matériel auxiliaire d'enseignement	Teaching aids
Matériel pédagogique	Teaching material, Teaching equipment
Matières	Subjects
Metteur en ondes	Sound director
Mixage	Mixing
Mixage (salle de)	Mixing room, or Mixing booth (U.S.A.)
Modulation d'amplitude (M.A.)	Amplitude modulation (A.M.)
Modulation de fréquence (M.F.)	Frequency modulation (F.M.)
Mondo ou Mondiovision	Mondiovision
Moniteur	Class-leader or supervisory staff
Montage	Editing
Montage audio-visuel	Audio-visual montage
Moyens audio-visuels	Audio-visual facilities
Montage (salle de)	Cutting room
Monteur, euse	Film editor
Moyens éducatifs	Educational facilities
Moyens d'enseignement	Teaching facilities
Niveaux d'enseignement (ou degrés d'enseignement)	Educational levels (primary school) or forms

Opérateur	Cameraman
Orientation professionnelle	Vocational guidance
Panoramique	Panning shot
Personnel enseignant (ou d'enseignement)	Teaching staff
Phonothèque	Sound library
Photothèque	Picture library
Plan	Shot
Plan américain	Close medium shot
Plan de situation	Establishing shot
Plan (gros)	Close up
Plateau	Stage
Play-back	Play-back
Postsynchronisation	Dubbing
Preneur de son	Sound man
Présentateur	Speaker, presenter
Prise de son	Sound recording
Prise de vues	Shooting (film), tape recording (T.V.)
Producteur	Producer
Production	Production
Professeur	(Secondary) School teacher
Professeur auteur ou producteur	Author of educational programme
Profondeur de champ	Depth of field
Programme	Programme
Projecteur	Spot
Projecteur d'effets	Effects spot
Promotion professionnelle	Advance-training
Promotion sociale	Social development
Population scolarisée	School population (primary, secondary)
Public captif	Captive audience
Public actif, passif	Audience (U.S.A.); Active, passive audience
Pupitre de commande	Control desk
Pupitre d'image	Vision desk mixing
Pupitre de prise de son	Sound desk
Pupitre de commande de lumière	Lighting central desk
Radiodistribution	Distribution by wire or relay services
Radiovision	Radiovision
Radio télédiplôme	Television diploma
Rampe de cycle	Batten

Rattrapage	Remedial course
Réalisateur	Director
Récepteur (de radio, de T.V.)	Receiver (sound radio or television)
Récepteur en dérivation	Television receiver in parallel
Récepteur en série	Television receiver in series
Récepteur de télévision	T.V. set (U.S.A.)
Récepteur à vision directe	Direct picture receiver
Récepteur à vision projetée	Projection (large screen) receiver
Réception	Reception
Régie (technique)	Control room
Régie T.V.	Control room (T.V.)
Régie radio	Control room (sound)
Régisseur de plateau	Floor manager
Reconversion	Retraining
Recyclage	Refresher course
Renforcement (instruction programmée)	Reinforcement (programmed instruction)
Reproduction	Reproduction
Réseau éducatif	Educational network (U.S.A.)
Rush (singulier)	Rush (singular)
Rushes (pluriel)	Rushes (plural)
Satellite de distribution	Transmission satellite
Satellite de radiodiffusion	Broadcasting satellite
Satellite de télécommunications	Telecommunication satellite
Scénario	Script
Scénariste	Script writer
Script (découpage)	Camera script
Session	Session
Situation pédagogique	Teaching learning, situation
Stage	Training course
Station éducative	Educational television station
Stratovision	Airborne television
Studio	Studio
Support (film)	Film support, base (U.S.A.)
Support à pied	Stand
Superposition	Overlay
Surimpression	Superimposing
Synopsis	Synopsis
Techniques audio-visuelles	Audio-visual techniques
Télécinéma	Telecine

Télédiffusion	Distribution by wire (sound or or vision) relay services
Télé-enseignement	Educational television
Télé-pédagogie	Educational television
Télé-professeur	Television teacher
Téléthèque	Tape library
Télévision éducative	Educational television
Télévision scolaire	School broadcasting or instructional television (U.S.A.)
Tirage	Printing
Trucage	Effects
Unité audio-visuelle	Audio-visual set
Unité mobile	Mobil unit (U.S.A.)
Vidéo (signal)	Video signal
Visualisation	Visualization
Volet de masque de projecteur	Barn door

English	*French*
Adult education	Éducation des adultes
Advance-training	Promotion professionnelle
Airborne television	Stratovision
Ambiance-mood	Ambiance
Amplitude modulation (A.M.)	Modulation d'amplitude (M.A.)
Anchor-man (production)	Animateur (production)
Answer-print	Copie étalon
Apprenticeship (or training)	Apprentissage
Assessment cards (or comment)	Fiches critiques
Audience (U.S.A.) active, passive	Public actif, passif
Audio-visual aids	Auxiliaires audio-visuels
Audio-visual centre	Centre audio-visuel
Audio-visual equipment	Équipement audio-visuel
Audio-visual facilities	Moyens audio-visuels
Audio-visual material	Document audio-visuel
Audio-visual montage	Montage audio-visuel
Audio-visual set	Unité audio-visuelle

Audio-visual techniques	Techniques audio-visuelles
Author of educational programme	Professeur auteur ou producteur
Background	Arrière-plan
Background aspect	Aspect d'un fond
Back-lighting	Contre-jour
Barn door	Volet de masque de projecteur
Batten	Rampe de cycle
Branches	Disciplines
Broadcast (or wireless transmission)	Diffusion
Broadcasting satellite	Satellite de radiodiffusion
Broadcast for teachers	Émission d'information des professeurs
Camera lands	Champ visuel d'une caméra
Cameraman	Opérateur
Camera script	Découpage, script
Caption-stand	Banc-titre
Captive audience	Public captif
Central sound system	Chaîne sonore
Channel	Canal (son-image)
Class-leader	Moniteur
Closed circuit television	Circuit fermé (de télévision)
Close medium shot	Plan américain
Close up	Plan (gros)
Coaxial cable	Câble coaxial
Comment (or assessment) cards	Fiches critiques
Commentary	Commentaire
Commentator (or narrator)	Commentateur
Contact-print	Copie-contact
Continuity	Continuité
Continuity-suite or programme-block (U.S.A.)	Bloc programme
Control class (or experience class)	Classe témoin
Control class (or institution)	Classe (ou établissement) témoin
Control desk	Pupitre de commande
Control room	Régie (technique)
Control room (T.V.)	Régie (T.V.)
Control room (sound)	Régie (radio)
Copy (or print)	Copie
Course (of studies, training, etc.)	Cycle (d'études, de formation, etc.)
Credit title	Générique
Cultural development	Développement culturel

Cultural guidance	Animation culturelle
Curricula	Programmes scolaires
Cutting-copy	Copie de travail
Depth of field	Profondeur de champ
Development	Développement
Dimmer quadrant	Manette de commande d'éclairage
Director	Réalisateur
Direct picture receiver	Récepteur à vision directe
Direct teaching	Enseignement direct
Direct teaching programme	Émissions palliatives (ou de renforcement
Distribution by wire or relay services (sound or vision)	Radiodistribution ou télédiffusion
Documentary programme	Documentaire
Dolly	Chariot mobile
Downstage	Avant-scène
Dubbing	Postsynchronisation
Duplex (and multiplex) links	Liaisons en duplex et multiplex
Edge-effect	Effet de bord
Editing	Montage
Editor (film)	Monteur, monteuse
Educational broadcasting	Émissions éducatives
Educational channel	Chaîne éducative
Educational facilities	Moyens éducatifs
Educational (or vocational) guidance centre	Centre d'orientation (pédagogique, professionnelle)
Educational levels (primary school) or forms	Niveaux d'enseignement (ou degrés d'enseignement)
Educational levels (secondary school)	Cycles d'enseignement (ou niveaux d'enseignement)
Educational network (U.S.A.)	Réseau éducatif
Educational television	Télévision éducative, télé-enseignement, télépédagogie
Educational television station	Station éducative
Educational (or classroom) use of audio-visual signals	Exploitation pédagogique des messages audio-) visuels
Effect	Effet
Effects	Trucage
Effects spot	Projecteur d'effets

Emulsion	Émulsion
Daylight emulsion	Émulsion en lumière du jour
Artificial light emulsion	Émulsion en lumière artificielle
Reversible emulsion	Émulsion inversible
Enrichment	Enrichissement
Enrichment programme	Émissions complémentaires ou de soutien
Entrance examination	Examen d'entrée
Environment	Environnement, milieu
Establishing shot	Plan de situation
Experimental class	Classe pilote
Experimental (or pilot) class, or institution	Classe (ou établissement) pilote
Field	Champ
Field of vision (to be distinguished from camera lands)	Champ visuel (à distinguer du champ visuel d'une caméra)
Film library	Cinémathèque, filmothèque
Final examination	Examen terminal
Final print, (or release print)	Copie d'exploitation (de distribution)
Floor manager	Régisseur de plateau
Frame (or picture)	Image
Framing	Cadrage
Frequency modulation (F.M.)	Modulation de fréquence (M.F.)
Fundamental education	Éducation de base
Grammar school (U.K.) or high school (U.S.A.)	Lycée
Hertzian beams (or radio links)	Faisceaux hertziens
High school (U.S.A.) or grammar school (U.K.)	Lycée
Higher education	Enseignement supérieur
Highkey	Lumière (haute)
Information office	Centre de documentation
Insert	Insert
Instructor	Instructeur
Instructional broadcasting	Émissions d'enseignement, Télévision scolaire
Integration of audio-visual signals (into class-teaching)	Intégration (des messages audio-visuels)
Intensive training	Formation accélérée
Intermediate examination	Examen de passage

Key light (high, low)	Lumière principale (haute, basse)

Lifelong education	Éducation permanente
Lighting control desk	Pupitre de commande de lumière
Listening, viewing group	Groupe d'écoute collective
Literacy campaign	Campagne d'alphabétisation
Live transmission	Diffusion en direct

Make up	Maquillage
Make up artist	Maquilleur
Married print	Copie finale
Master print	Copie originale
Mixing	Mixage
Mixing room or mixing booth (U.S.A.)	Salle de mixage
Mobile unit (U.S.A.)	Unité mobile
Mondovision	Mondovision
Monitor room	Cabine de contrôle
Music assistant	Illustrateur sonore

Narrator	Commentateur
Newscaster	Journaliste de T.V.
Newsreader	Journaliste de radio

Omnidirectional transmission	Diffusion omnidirectionnelle
Open circuit television	Circuit ouvert (de T.V.)
Optical print	Copie optique
Opting out of network	Décrochage d'émetteur
Organized group (school)	Collectivité (scolaire) organisée
Out-of-school education	Éducation extra-scolaire
Overlay	Superposition

Panning shot	Panoramique
Picture (or frame)	Image
Picture definition	Définition (norme de) (ou norme de télévision)
Play back	Play back
Popular education	Éducation populaire
Post-school education	Éducation postscolaire
Practical training	Entraînement
Pre-school education	Éducation préscolaire

Presenter (or speaker)	Présentateur
Primary (elementary) education	Enseignement primaire (ou élémentaire)
Primary school teacher	Instituteur
Printing	Tirage
Producer	Producteur
Production	Production
Programme	Programme — émission
Programme-block (U.S.A.) (or continuity-suite)	Bloc programme
Programmed instruction	Instruction programmée
Programme-network (or channel)	Chaîne
Projection box (or room)	Cabine de projection
Projection (large screen) receiver	Récepteur à vision projetée
Property	Accessoires
Property man	Accessoiriste
Qualifying examination	Examen de qualification
Radio links (or hertzian beams)	Faisceaux hertziens
Radiovision	Radiovision
Receiver	Récepteur
Reception	Réception
Record library	Discothèque
Recording room	Cabine d'enregistrement
Refresher course	Recyclage
Reinforcement (programmed instruction)	Renforcement (instruction programmée)
Remedial course	Rattrapage
Report book (school)	Livret scolaire
Reproduction	Reproduction
Scene-shifter	Machiniste
School broadcasting or instructional television	Télévision scolaire
School population (U.S.A.) (primary — secondary)	Population scolarisée
Screen	Écran
Script	Scénario
Script girl	(La) script
Script writer	Scénariste
Secondary education	Enseignement secondaire
Secondary school teacher	Professeur
Single frame projection	Image par image (projection)

Self teaching (programmed learning)	Auto-instruction (méthodes — procédés)
Session	Session
Shot	Plan
Shooting (film)	Prises de vue
Social development	Promotion sociale
Sound desk	Pupitre de prise de son
Sound director	Metteur en ondes
Sound man	Preneur de son
Sound proofing	Insonorisation
Sound recording	Prise de son
Speaker (or presenter)	Présentateur
Specialist training	Formation spécialisée
Spot	Projecteur
Stage	Plateau
Stand	Support à pied
Standard (film)	Format standard (film)
Studio	Studio
Subjects	Matières
Supervisory staff	Personnel d'encadrement
Supervisor (group)	Encadrement (d'une collectivité)
Support (film) or base (U.S.A.)	Support (film)
Support material	Documents d'accompagnement des émissions
Superimposing	Surimpression
Synopsis	Synopsis
Tape library	Téléthèque
Tape recorder	Magnétophone
Teacher's notes	Fiches pédagogiques
Teaching aids	Matériel auxiliaire d'enseignement
Teaching equipment	Matériel pédagogique
Teaching facilities	Moyens d'enseignement
Teaching learning situation	Situation pédagogique
Teaching material	Matériel pédagogique
Teaching staff	Personnel enseignant ou d'enseignement
Technical education	Enseignement technique
Technical room	Cabine technique
Telecast (U.S.A.)	Émission
Telecine	Télécinéma
Telecommunication satellite	Satellite de télécommunications
Telecourse (U.S.A.)	Cours télévisé ou télécours
Telerecording	Kinescope

Television correspondence course	Enseignement télévisé par correspondance
Television receiver in parallel	Récepteur en dérivation
Television receiver in series	Récepteur en série
Television set (U.S.A.)	Récepteur de télévision
Television teacher	Téléprofesseur
Text-book (school) (or manual)	Manuel (scolaire)
Trailer	Bande annonce
Training course	Stage
Transmission copy	Copie antenne
Transmission satellite	Satellite de distribution
Transmitter	Émetteur
Treatment	Descriptif
University station	Émetteur universitaire
Video (signal)	Signal vidéo
Videotape recording	Magnétoscope
Vision desk mixing	Pupitre d'image
Visualisation	Visualisation
Vocational guidance (educational)	Orientation professionnelle (pédagogique)
Vocational guidance centre (educational)	Centre d'orientation professionnelle (pédagogique)
Vocational training	Formation professionnelle
Vocational training school	École de formation professionnelle
Wavelength	Longueur d'onde

The manuscript for the English edition was compiled under the supervision of Mr. Michael O'Neil of the Audio-visual Centre of the École normale supérieure de Saint-Cloud.

Table of contents

Foreword 3

Chapter 1

PREPARATION OF THE CONFERENCE

The International Organizing Committee 7
Conference Regulations 15
Guidelines for the Conference 23
Termes of reference of the four commissions. 27
Audition and Screening Sessions. Plenary Sessions 43
General Working Directives 47
Officers of the Conference 71

Chapter 2

SEMINAR

COMMISSION I 81
Officers of the Commission 83
Summing-up papers
  1. Teaching situations and methods 85
  2. Programmes and production 112
  3. Professional descriptions of the various types of specialists 138
List of working-papers 139

COMMISSION II 149
Officers of the Commission 151
Outline of the work of the Commission 153
List of working-papers 154

COMMISSION III 157
Officers of the Commission 159
Summing-up papers
  1. Exchange of written information and personnel 161
  2. and 3. International co-production and distribution of educational programmes 164
  4. Distribution and transmission of educational programmes by satellite 177
List of working-papers 183

COMMISSION IV 187
Officers of the Commission 189
Reports by animateurs :
  3. Methods of checking and evaluating results 193
  2. Environment 201
  1. and 4. Impact of " programmed learning " methods on Educational Radio and Television 221
General survey 229
List of working-papers 239

Chapter 3

PLENARY SESSIONS

Examination of the evolution of Educational Radio and Television since 1964

Friday, March 17th, 1967 : Inaugural session 245
  Speeches by Messrs. Jacques-Bernard Dupont 247
    Yoshinori Maeda 249
    Johannes B. Broeksz 252
    Malcolm S. Adiseshiah 254
    Christian Fouchet 256

Friday, March 17th, 1967 : Recent developments of educational radio and television in the member Organizations of the E.B.U. 261
  – The present state of educational radio and television in western Europe, report by Mr. L.-Ph. Kammans 263
  – Tasks of the European Broadcasting Union, Report by Mr. H. Hahr 282

Saturday, March 18th, 1967 : Recent developments of educational radio and television in the member Organizations of the I.R.T.O. 287
  – Tasks of the International Radio and Television Organization, report by Mr. W. Sokorski 289
  – The development of educational programmes in I.R.T.O. organizations, report by Mr. M. Budil 291

- Educational television broadcasts of Intervision member organizations, report by Mr. N. Birukov 299

Monday, March 20th, 1967 : Recent developments of educational radio and television in the member Organizations of the A.B.U. 309
- Educational broadcasting in Asia and the Pacific, report by Sir Charles Moses 311

Tuesday, March 21st, 1967 : Recent developments of educational radio and television in the member Organizations of the U.N.T.R.A. 343
- The development of educational radio and television in Africa, report by Mr. H. Akrout. 345
- Educational radio and television in the English-Speaking countries of Africa, report by Mr. E. Adjorlolo 348
- Educational radio and television in the French-Speaking countries of Africa, report by Mr. H. Akrout 358

Wednesday, March 22nd, 1967 : Recent developments of educational radio and television in the organizations of North America and Latin America . . 367
- In Canada, report by Mr. E. Hallman 370
- In the United States, report by Mr. W. G. Harley 373
- In Mexico, report by Mr. Galvez y Fuentes 378
- In Brazil, report by Mrs. de Paiva e Souza 383
- In Nicaragua, Cuba and Salvador, report by Mr. Salinas Zepeda . . 387
- In Bolivia, Colombia, Ecuador, Venezuela and Peru, report by Mr. M. Benavides 389
- In Chile and Argentina, report by Mr. di Pasquale 393

Chapter 4

PLENARY SESSIONS

Presentation of the work of the Seminar

Friday, March 17th, 1967
- Final Report of Commission I 399
- Appendixes to the Final Report of Commission I 419

Saturday, March 18th, 1967
- Final Report of Commission II 437
- Recommendations of Commission II 458

Monday, March 20th, 1967
- Final Report of Commission III 461
- Conclusions of Commission III 476

Tuesday, March 21st, 1967
- Final Report of Commission IV 481
- Conclusion of Commission IV 496
- Recommendations of Commission IV 498

- Report of the Working Group of Terminology 501
- Index of key terms 512

Wednesday, March 22nd, 1967 : Closing session 527
- General report by Mr. I. Neri 529
- Speeches by Messrs. Jean Thomas 537
  - Galvez y Fuentes 540
  - Tor Gjesdal 541
  - Jacques-Bernard Dupont 543
  - Johannes B. Broeksz 545

Chapter 5

REFERENCES

List of International Broadcasting Organizations and Delegations 551
List of Organizations and Delegations — Delegates, Observers, Auditors . 553
List of Personalities 589
List of Observers and Auditors 591
List of Organizations which sent descriptions of their activities 596
Review of the programmes presented 598
- Radio programmes 603
- Radiovision programmes 624
- Television programmes 627

Abbreviations 658
Technical vocabulary 660

This book has been printed at the Bussière
Press in Saint-Amand (Cher) for the Office
de Radiodiffusion Télévision française.

4 th Trimester 1968.

EM00710

ED
EXPENDITU

	STAGES OF OPERATION EXPENDITURES	PRODUCTION							
		SUB-TOTAL : PRODUCTION	1 Administration	2 Programme planning and preparation (1)	3 Execution * Programming execution * Technical execution (2)	4 Publication * Promotion Inf. Publ. * Document + acc. document (3)	5 Evaluation and research * Technical * Programme	6 Training * Programming * Technical	SUB-TOTAL : TRANSMISSIO
INVESTMENTS	1 Land								
	2 Building								
	3 Services power, water, public works...)								
	4 Equipment (purchase and installation) * Production (audio, video, lighting, offices, workshops...) * Transmission (transmitter, antenna...) * Reception (receivers, antenna...)								
	TOTAL : INVESTMENTS								
	5 Personnel * Salaries, allow. * Social benefits								
	6 Professional services (fees...)								

/101

EDUCATIONAL TELEVISION
ITURES BY STAGE OF OPERATIONS

~~(cf.~~ Commission II)

TRANSMISSION AND DISTRIBUTION							RECEPTION							
SUB-TOTAL : TRANSMISSION DISTRIBUTION	7 Administration	8 Programme planning and preparation	9 Execution	10 Publication	11 Evaluation and research	12 Training	SUB-TOTAL : RECEPTION	13 Administration	14 Reception planning (4)	15 Execution	16 Publication	17 Evaluation and control	18 Training of users	TOTAL

NS

ECEPTION						TOTAL (ACTIVITIES)						
13 Administration	14 Reception planning (4)	15 Execution	16 Publication	17 Evaluation and control	18 Training of users	TOTAL	Administration (1-7-13)	Planning (2-8-14)	Execution (3-9-15)	Publication (4-10-16)	Evaluation research (5-11-17)	Training (6-12-18)

(1) Some countries include data collection and script writing under this item.
(2) This includes artistic, pedagogic and production activities.
(3) Including distribution.
(4) Including building adaptation.

RECURRING	7 Supplies and materials							
	8 Maintenance * Site building * Equipment							
	9 Utilities * Power (technical ; domestic) * Water							
	10 Rentals (premises, transmission facilities, receivers)							
	11 Communication * Teleph. Telegr. * Postage							
	12 Transport * Personnel (travel, subsistence) * Equipment							
	13 Perfoming rights							
	14 Fixed charges * Taxes * Insurance * Others							
	TOTAL : RECURRING							
GRAND TOTAL INVESTMENTS and RECURRING								